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MORRISON, J.

London, 1830.

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MORRISON, J.

MEDICINE NO MYSTERY.

PRINTED BY G. H. DAVIDSON,
IRELAND YARD, DOCTORS' COMMONS.



MEDICINE NO MYSTERY;

BEING

A BRIEF OUTLINE

OF THE

Principles of Medical Science:

DESIGNED AS

AN INTRODUCTION

TO

THEIR GENERAL STUDY,

AS

A BRANCH OF A LIBERAL EDUCATION.

Second Edition.

BY JOHN MORRISON, M.D.

AND A.B. TRIN. COL. DUBLIN.

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Burke.

LONDON:

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1830.

G. H. Davidson, Printer,
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TO THE

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A *late memorable* investigation has manifested the dreadful dangers to which the public is exposed by *charlatanism*; it has also convinced the Author of this Treatise that he has taken a correct view of the subject; and that the only true or feasible means of checking the triumphant march of an evil which annually consigns its *thousands* of victims to the tomb, or entails on them permanent sufferings worse than death, is to be found in the acquirement of the Principles of Medicine as a science forming a part of a liberal education.

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October, 1830.

TO

SIR JAMES M'GRIGOR, M.D.

&c. &c. &c.

DIRECTOR-GENERAL OF THE ARMY MEDICAL DEPARTMENT,

This little Work,

THE RESULT OF THE LEISURE AFFORDED TO THE AUTHOR DURING A
FEW MONTHS PASSED ON HALF-PAY,

IS, BY PERMISSION,

RESPECTFULLY DEDICATED.

10, Upper Gloucester Street, Dublin.

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INTRODUCTION.

IT has long been a subject of complaint amongst scientific and well-educated medical men, that the Public in general seems either unable or unwilling to draw the distinction between the Physician of liberal attainments, who founds the practice of his profession on enlightened views of the structure and functions of the animal œconomy in health and disease (which his previous education and habits of philosophic research have enabled him to take with justness and precision), and the uneducated and il-

liberal retailer of drugs and nostrums ;— who practises physic in the same spirit that he pursues his mechanic trade ; whose only ideas of the profession he presumes to follow are derived from hearsay and precedent ; who, incapable of reading in the Book of Nature (as he has not cultivated the moral sense necessary to the perception of its character), is only confirmed in his errors by the practice of them ; who mistakes symptoms for causes, and in whose shortsighted views the idea of an ailment and a nostrum are so inseparably united, that the one uniformly follows the other in his bungling and self-interested practice.

It is a notorious and melancholy fact, that five-sixths of the practice of the medical art are engrossed by persons of

the latter description, and the result is a frightful increase of human misery in the form of chronic diseases, without even the pitiful, miserable counterpoise of a pecuniary saving being effected by the system of employing those “roturiers” of the profession.

The complicated and intricate structure of the human frame—that beautiful fabric composed of circles of systems, the Nervous, the Sanguineous, the Alimentary, the Motive, all mutually influencing and supporting each other, so that the smallest deviation from healthy action in one entails disturbance of the rest, and malady on the individual,—this structure cannot support the rude handling of the empirical nostrum-monger, without suffering from it.

It is not in its more immediate effects, in many cases, that the ill consequences of the interference of the gross and ignorant dabbler in physic are manifested, but in the fatal injury inflicted on the constitution, either by the very means employed to remove the disease, or by the neglect of measures calculated to prevent the consequences apt to result from it.

Instances elucidating the above observation might be multiplied "*ad infinitum*:"—for example, a delicate man coming from a warm climate is attacked with what he calls a fit of bile, shortly after his arrival—the apothecary is sent for: destitute of the power of discriminating disease or temperament, he applies to our invalid the practice which

he has just pursued with the bloated alderman, who has been suffering from the effects of the civic feast—he makes his body “ a thoroughfare for his whole shop to pass through :” emetic, blue pill, black draught, succeed each other ; the nervous powers of the stomach are exhausted ; an attack of chronic indigestion is produced ; the constitution, already enfeebled, is further shaken by want of healthy nutrition, and by irritation of the digestive organs ; Gout, which was lurking in the system, shortly afterwards makes its first attack (as it generally does when the system receives a shock) ; and from the same cause, the disease, instead of the extremities, occurs in the lungs or stomach, and the patient either sinks under the new malady, or escapes to

drag on a miserable existence, rendered irksome by habitual suffering.

The same individual (to vary the case), on his return to a cold climate, after some fits of bile, is attacked (from accidental exposure) with an acute inflammation of the liver, an organ already irritable. The symptoms are modified by his state of health, and require discrimination to detect them. Unprofitable and mistaken measures of “routine” are resorted to; the malady gains ground; it is communicated to the lungs; winter approaches; consumption ensues; and the patient becomes a victim to the partiality of his landlady for her apothecary, or to the general ignorance I have spoken of respecting the medical profession,

which first induced him to put his life and health into such hands.

I have observed that the public is unable or unwilling to discriminate between the merits of persons practising the medical profession—the latter is sometimes the case, but the former much more frequently; and that ignorance appears to me referable to two circumstances, one of which applies to the Public, the other to members of the medical profession.

The first is the general ignorance which prevails of the principles of a science which would nevertheless appear to be that of which mankind is more interested in acquiring information than of any other whatsoever,—I mean that

which treats of the structure and functions of our bodies, and of the nature and principles of diseased actions in general.

How is it that every man that lives in society, and who has received the education of a gentleman, thinks it requisite to know something of the laws of his country? Because the preservation of his property and his rights are concerned with and protected by them. Of agriculture and architecture?—Because his interest and his comforts are connected with such knowledge. Why is it that such a man seeks to acquire some knowledge even of farriery and the diseases of the horse?—Because his enjoyments are connected with the perfection of that animal. He takes a

pride in such knowledge, and would not by any means be thought to be ignorant in those matters; and yet, of that science which treats peculiarly of *himself*, and with which his health, his life, and all his comforts are so often connected, he is entirely uninformed, and does not hesitate to avow his ignorance!

It is certainly to be allowed that it is mainly the interest of the ignorant and empirical part of the medical practitioners, which, as I have above remarked, constitutes five-sixths of the whole, to prevent men from informing themselves on those subjects, lest their inefficiency should be exposed, and contrasted with the science and abilities of others; and they have, accordingly, always endeavoured to keep up this state of ignorance,

and to oppose a barrier to the general attainment of the principles of physiological and medical science, by speaking of it as one involved in intricate and almost incomprehensible difficulties; as dealing in secrets only approachable by the *initiated*; as enveloped in midnight horrors, to be sought in charnel-houses, and courted in the pestiferous atmosphere of disease, and in the arms of Death himself. These are truly the means by which inquiry has been repelled and damped, and they have been hitherto successful in stifling it in the bud; so much so, that although, in my intercourse with the world, I scarcely ever met with a man of education and general information who was not eager to acquire some knowledge on subjects so deeply interesting, yet I do not re-

member to have met with *one* who possessed any just ideas or useful knowledge of them—at least in the British Empire; for on the Continent this ignorance on physical subjects is not so extensive, and I have met with some well-educated men in France, in the Army and other professions, who possessed some knowledge of the Science of Life.

Now, it is manifest that in the same proportion that it is the interest of low pretenders to keep the world in ignorance of those matters, it is that of well-educated and scientific Physicians that it should be enlightened. Nevertheless, I fear that the latter have not acted on that principle, and that they still affect a mystery in their proceedings, and show an unwillingness to communi-

cate the information sought of them by their patients or their friends, which is not only in itself disgusting and ridiculous, but calculated to do injury to themselves and to the cause of science.

It is obvious that, when I recommend that well-educated persons should acquire a knowledge of the science on which the Medical Art depends, I must only mean a general one. A more intimate knowledge of such science and of disease, can only be acquired by a long habit of applying the principles to practice; and it is no more desirable that every man should be a Physician, than that he should be a Lawyer, *in detail*, although it is obviously as important that he should possess that knowledge which would enable him to comprehend the

view that his medical attendant takes of the diseases of his friends or himself, and of the principles that will regulate his plan of cure, as that he should be enabled to comprehend the view which his legal friend gives him of the state of his disputed property, and of the means to be taken to defend or recover it. If his ignorance renders him incapable of appreciating the detail, he incurs the danger, in the one case, of becoming the victim of the pettifogging shark, and, in the other, of the dosing empiric; and, as health is universally admitted to be an infinitely more valuable possession than wealth, he is much more interested in forming a just opinion of the hands into which he entrusts the former than the latter.

I have spoken above of the erroneous

impressions which have been propagated by self-interested persons relative to the difficulties attending the attainment of the general knowledge of Animal Structure and Function, and the Laws of Health and Disease, and which have had the effect of preventing the acquirement of such knowledge. In point of fact, such knowledge may be acquired with as much facility as any other branch of Physics, and its study may be rendered as agreeable as that of Astronomy or Optics. The extent of Anatomical Knowledge which it would be desirable to acquire, in order to have a just idea of the functions of the animal system, may be readily attained by the beautiful Anatomical Plates of Albinus, Scarpa, &c., which are now to be procured at all the Medical Libraries; whilst the Physio-

logy of Haller, or Richerand (which, as abridged, are works of limited extent), will communicate to any intelligent man a very sufficient idea of the functions of the various organs, and of the systems which they constitute. Dr. Cullen's "*First Lines of the Practice of Physic*," and the beautiful work of the philosophic Dr. Mason Good, "*The Study of Medicine*," and Darwin's "*Zoonomia*" (a book as amusing as any novel of Sir Walter Scott), will explain the causes and symptoms of the diseases of *Internal Structures*; as Cooper's "*First Lines of Surgery*" will those of the *external* parts; to which may be added Thompson's splendid work on Inflammation.

It is my design, in the few pages which follow this Introduction, rather to endea-

vour to inspire a taste for the delightful science, the study of which I have advocated, than to convey much actual information on the subject in so limited a treatise. Its study I have recommended on other grounds than those of the pleasure resulting from the pursuit; but it is also abundantly calculated to attract the student in the latter point of view.

It appears to me that it would be very desirable that the members of the Legal Profession should make themselves masters of some general information on those matters, drawn from correct sources, on further grounds than those I have mentioned as applying to all men individually, as they would find it so eminently useful in the exercise of their pe-

culiar profession. Any man who may have perused trials for murder, &c., in which the verdict has often hinged on the crude evidence of some miserable country apothecary, who was totally incapable of forming any accurate judgment on the subject referred to him, but whose "*dictum*" the court has been obliged to admit, from the incompetency of the advocate to produce the manifestation of his ignorance, which a very limited course of such study as I have recommended would have enabled him to do, will be inclined, I am convinced, to admit this proposition.

To those causes of ignorance respecting our profession, as applies to the public, are to be added the strange, anomalous, multiplied, and even contradic-

tory arrangements observed at the Colleges and Schools where medical men receive their diplomas and qualifications for practice: they are such that there are multitudes of even professional men who are ignorant of them,—scarcely any one in possession of the whole of them. How, then, can it be supposed that the public can be able to ascertain, by any inquiry as to the diploma possessed by a medical man (even though there existed a disposition to communicate such information), what his presumed sufficiency might be? The whole system appears to be constructed with a view to baffle inquiry, and to envelope this matter of qualification in the same mystery and confusion that cover every other circumstance regarding the medical profession. There are Colleges and Universities of Royal foundation that

confer degrees of Doctor of Medicine, which empower the possessors of them to practise medicine “all over the world,” to use the words of those diplomas; there are Corporations established by Royal Charter, called “*Colleges of Physicians*,” which refuse to admit those M.D.’s as legitimate professors of their art, unless they are again examined and approved by them, for which testimonial a large sum is paid. Again, after undergoing all these ordeals in one quarter of the empire (Ireland, for instance), a Physician finds himself as unqualified as ever in another.

The Schools of Surgery are equally irreconcilable with each other; and the diplomatists of the College of Surgeons of London, in which a Pott, a Chessel-

den, a Hunter, a Cooper, and a Lawrence, have qualified (the men from whose works the Profession of Surgery is learned), are considered as spurious and unqualified persons by the surgeons of Dublin. Amidst all this mass of mystery and contradiction, it is not to be wondered at that the public should refuse to receive the decisions of the Professors of the Medical Art on the subject of the legitimacy or capacity of its practitioners; but it is to be regretted that it has not in *itself* a test to refer to: and such a one would be found in the general knowledge of the principles of the profession which I have recommended in these pages.

So far I have thought it necessary to remark with respect to the Public. Now, as applies to the Physicians—and by this

term I mean to designate only such as really merit that title, which in its extended sense signifies a “Natural Philosopher,”—they, it must be admitted, have contributed to foster the ignorance of the public on medical subjects, by the air of mystery which they have affected to throw over their proceedings; by their abrupt and dogmatic manner in many instances; by their haughty and absurd refusal to make those communications so eagerly sought by their patients and their friends relative to the nature of their maladies; and by their disgraceful bickerings with each other on the subject of precedence, founded on the ridiculous, artificial, self-created distinction of a diploma or degree from this college or that. This

source of ignorance to the public, and of injury to themselves and to the dignity of the profession, I fear it would be found more difficult to remove than that which I have treated of as connected with the public itself. I have little hope that any remarks of mine will have the effect of removing habits which have stood firm against the attacks of ridicule, wielded against them by every comic writer, from Molière downwards ; but, to shield myself from the imputation of having taken an invidious view of the subject, or of having hazarded sentiments on it peculiar to myself, I beg to quote the words of Dr. Clutterbuck in his lectures on the subject :—

“ I cannot help thinking that the pro-

gress of our art is impeded by the mystery in which it is involved; that the public know hardly anything of its real nature, and think it consists merely in the exhibition of nauseous drugs.

“ They hardly ever estimate justly the qualifications of practitioners, but receive them with blind credulity, becoming willing dupes of every pretender to the healing art, or sacrifice their health to an unreasonable distrust of all medical aid.

“ Were the affectation of writing prescriptions in a language unintelligible to the public laid aside, they would be soon enabled to decide between real and pretended merit. The mystery observed on consultation is also a strong support

to quackery and imposture, and has the further bad effect of taking away that degree of responsibility which is the only safeguard against incompetency and hazardous experiment, on the part of those to whom they entrust their life."

MEDICINE NO MYSTERY.

SECT. I.

OF THE ANIMAL SYSTEM IN A STATE OF HEALTH.

THE Animal System, in its most complicated and perfect example—Man, consists, like the Solar one, of a series of subordinate systems, or actions, all concurring to one great end (life), so intimately connected, that the existence of one presumes that of the rest, and forming so perfect a circle, that, in the description of it, it is indifferent in what part of the circumference we commence, as every part necessarily leads us to the same end, the point we began at.

Life has been briefly defined as “motion;” and all motion, whether voluntary or involuntary, appears to originate in the Nervous System.

By voluntary motions are meant those over which the will holds control; they do not need exemplification. Involuntary motions are those which more immediately regulate the functions of life; as the action of the heart, of the organs of respiration, of the stomach, &c. These last originate in a system apart, which is, however, connected with the general Nervous System, in a manner I shall shortly notice.

1. NERVOUS SYSTEM.

The brain and spinal marrow form the origin and main trunk of the Nervous System.

The nerves of four of the senses (sight, hearing, smell, and taste), originate immediately from the brain, the position of those senses being, in all animals by whom they are possessed, in the head. The seat of the fifth sense is the general surface of the body; and the nerves constituting it are filaments derived from the nerves of sensation distributed throughout the frame.

The nerves which supply the internal organs

which perform the vital functions, form, as I have said, a separate system; it is called the Sympathetic, or Ganglionic, System.

The nerves which serve for motion, and those which constitute the general sensation of the body, proceed from the spinal marrow, in thirty pairs, and are distributed, the former to all the muscles of the body, which are the immediate organs of motion, and the latter to all the sentient parts of the frame.

The Ganglionic Nerves have their origin all along the front part of the spine on each side, and arise from small bodies like glands, called ganglions, which are connected by filaments with the nerves of motion and sensation proceeding from the spinal marrow.

This very general description must serve here for that of the Nervous System, as to its structure.

So intimately connected is the due supply of nervous influence with the healthy actions of every organ and part, that whenever the former is by any means suspended or diminished, the

actions of the organ whose supply of nervous power is affected, either cease altogether, or are vitiated and deteriorated, in proportion to the extent of the nervous affection.*

For example: When the nerves that supply the diaphragm (the principal organ in respiration) are divided, respiration ceases, and death ensues.

When the nerves supplying the stomach are divided, digestion ceases, and the food previously eaten is found some hours afterwards in an undigested state.

The heart performs its peculiar action by means of its nervous supply. When a sudden shock is given to the whole nervous system by fright, that system is thrown into a state of collapse, or diminished action, preparatory to the recovery of its natural powers again. The most striking effect

* Here it may be inquired, in what does the nervous power consist? This is, however, a matter beyond our ken. Every theory started on the subject is founded on conjecture alone. There appears, however, to be some analogy in their modes of action between nervous influence and the galvanic power.

of this state is the apparent cessation of the action of the heart and pulse during the swoon; the other phenomena attending this state cannot be understood until we shall have considered the peculiar functions of the heart itself, and the organs connected with it, which form the Sanguineous or Circulating System.

I have already remarked that the brain is assumed as the origin and source of the Nervous System. This organ must necessarily be in a state of activity whilst we are awake, in the performance of its various functions (as reflection, recollection, volition, &c.); and the exhausting nature of those functions is such, that a periodical state of collapse, or cessation of its more active powers, is required, to fit it to resume its energies. This state is sleep.

During perfect sleep all the active functions of the brain are suspended, and, in consequence, there is no perception of the duration of time during its continuance, because, in the interval, there has been no succession of ideas, which alone gives such perception. A person, on awakening from a perfect and healthy sleep, is unconscious whether he may have passed three

hours or twenty in that state: until he receives the conviction from comparing external circumstances, the instant of his awakening seems to be that of his falling asleep.

In general, however, towards the termination of sleep, there is a rambling unconnected consciousness, for a time previously to awakening. This probably arises from certain parts of the brain recovering their active powers, whilst other parts still remain in a state of collapse; and this may serve to explain to us the theory of dreams, which are referable to such a state of half-consciousness as I have just spoken of.

To the perfect action of any intellectual function, it is probably necessary that every part of the brain should concur successively. Supposing, however, such operation to be commenced in one part, at the time active, it will be interrupted in a part still in a state of collapse, and, like the images represented in a broken mirror, the mental picture will be disjointed, inconsistent, and at variance with itself.—Such, in fact, are dreams; they are excited by the last forcible impressions made on the brain, previous to its falling into a quiescent state.

Any cause that, by its exciting power, prevents the brain from falling into a perfect state of quiescence, will produce dreams: whether violent moral causes, as grief, joy, anxiety, or fear; or physical ones, as sickness and pain.

Anxiety has a peculiar effect in preventing sleep. It has been observed that a criminal, whilst his fate is in suspense, seldom or never sleeps composedly; and it is well known that the most profound repose attends the unhappy culprit on the eve of his execution, and that frequently he has been awakened from it to undergo his sentence; his fate being decided, no anxiety remains, and he sleeps profoundly.

The torpifying effects of cold have a powerful effect in producing sleep: thus, one of the greatest dangers that have attended those who have ascended the Andes and other lofty mountains, has arisen from the almost irresistible propensity to sleep which has invaded them at a certain elevation,—for sleep, under those circumstances, leads into death. To give a familiar instance, the throwing-off a superfluous blanket, or coverlid, frequently converts restlessness into repose, in individuals of a nervous temperament; and,

should this not succeed, the removal of the whole of the covering for a short time is almost an infallible means, as I have frequently experienced personally: the disposition to sleep almost immediately comes on, when the covering may be partially resumed.

Although the voluntary actions are all suspended during sleep, the involuntary ones still continue to be performed, as the motion of the heart, digestion, &c.; these, as I have before observed, emanating from the influence of nerves, which, although connected with the brain and spinal marrow, form a system apart.

The ganglions, or little gland-like bodies, which intervene, are supposed by some physiologists to serve to modify and restrain the direct communication of volition to those nerves, and, perhaps, to enable them to exert that peculiar influence, independent of the will, so necessary to the functions of the vital organs which they regulate. It would be a dangerous power to entrust to man, that of arresting the motion of his heart at pleasure.

Whilst the brain, and nervous system in im-

mediate connexion with it, are in repose, the moving powers influenced by them (the Muscular System, &c.), enjoy that cessation of action equally requisite to them.

These few remarks, it is presumed, will convey such an idea of the Nervous System, as may serve to render intelligible those I am about to offer respecting the other systems of the animal body.—I shall now consider the

2. SANGUINEOUS OR CIRCULATING SYSTEM.

The centre and origin of this system is the heart. This organ is a kind of forcing-pump, containing two reservoirs, which receive the blood from all the veins of the body, and pump it out with immense force into the arteries, through which it circulates, giving nutrition and support to every part, and returns again to the heart by the veins. This is a very general description of the sanguineous circulation through the body.

Subordinate to the circulating system, is the Pulmonary, consisting of the function of respiration and the organs subservient to it,—the prin-

cipal of which are the lungs. Through these organs the entire mass of the blood circulates in succession, after it has been brought back to the heart by the veins, and it receives, by contact with the air in the lungs, a principle (oxygen), which is so necessary to the due nutrition of the body, and is also supposed to be the cause and source of animal heat, although this is by some writers supposed to derive its source from the digestive system,* and to be connected with the chymical and vital changes which the aliment is there constantly undergoing.

This Pulmonary System renders necessary the double reservoir which the heart exhibits in man.

It is not for a moment supposed that the above general description will give an accurate idea of the structure of the heart. The peculiar office of that important organ renders a complex structure necessary to its functions, which, however, the scope of this treatise will not allow of our detailing. It may be sufficient to observe, that the most beautiful arrangement of parts, acting on hydrostatic and mechanic laws, is found to

* Rigby on Animal Heat.

exist, and that the inquirer will be amply gratified by the investigation of the subject.

It may be imagined that the muscular power of the heart must be considerable, to enable it to effect the purposes of the circulation. Its force has been often calculated, but the results of the calculations made vary so considerably, that no satisfactory opinion can be formed on the subject. However, as its whole structure is muscular, and its supply of nerves considerable, its power in a strong healthy man is consequently very great.

The arteries have a pulsation corresponding with that of the heart, from whence they are derived, partly arising from the action of the heart upon the blood which they contain, and partly on the contractile action of their own muscular structure.

The general state of the circulation may be ascertained by pressing with the finger on any one of the arterial trunks. One of the arteries of the arm (the radial) is chosen for this purpose, because the trunk of the vessel lies very superficially as it passes through the wrist, and its pul-

sation, in consequence, may be easily felt : it is emphatically called "the pulse."

From what has been said above, it is to be inferred that the arteries terminate, in their extreme branches, in the system of veins, by which the blood is returned to the heart. The mode of their junction is not accurately ascertained, from the minuteness of the extreme parts of those systems.

It is to be observed, that the nerves themselves are nourished by arterial blood conveyed to them by small branches, whilst they in their turn supply the arterial system with small twigs of nerves, which convey to it the nervous influence necessary to the performance of its function; thus forming between those systems that circle of action which I have spoken of in the commencement of this treatise.

In treating of the next system (the Digestive), it will be seen that the same circular arrangement of actions prevails between it and the two systems just described, as they mutually exhibit between each other.

3. DIGESTIVE SYSTEM.

The stomach is the source and centre of this system, to which several other parts and organs are subservient: as, the intestines; the masticatory organs contained in the mouth, with the tongue and palate, containing the organ of taste (one of the *senses* subservient to the digestive system); the lacteals, (to be described with the absorbent system,) again exhibiting the circular arrangement of function; the liver, spleen and pancreas, kidneys and bladder (to be described with the secreting system), still further exemplifying that arrangement.

It will be observed, from the above detail, that the digestive is the most extensive and complicated system in the whole animal œconomy: its organs take up a greater portion of *space* than those of any other internal function, and its sympathies are proportionately extensive.

The function performed by this system well merits the appellation of a “stupendous one;” it is indeed even a miraculous one, being the con-

version of dead and inert animal and vegetable matter into living solids and fluids—a change from death to life!

In order to the perfect accomplishment of this great change, it is requisite that the nervous power (that great originator of all motion and action), should be capable of acting in the most perfect vigour. When this power is unimpaired, all the consequent actions dependant on it are complete (as secretion, absorption, &c.), and a perfect and healthy digestion is the result. When this power is weakened or impaired, even for a short time, the digestive function suffers. Any violent passion of the mind, as grief, fear, or fright, excited immediately after a meal, has this effect (more strikingly, however, in persons of irritable and weak frames, as in females), and the sickness and eructation which take place on those occasions are a manifestation of it: the immediate effect of an interruption to the process of digestion being, that the food instantly begins to undergo that change (the commencement of the process of putrefaction) which the vital action of the stomach had before suspended, and air, as a consequence, is generated from it. Imperfect digestion from other causes affecting

the nervous energy is accompanied by the same symptom.

The process of digestion must be described with a briefness suited to the scope of this treatise.

The food, being ground down in the mouth, and mixed with the secretions there, passes into the stomach; there, by the peculiar muscular action of that organ, every part of it is presented in turn to the inner coat of the stomach, in which it appears the digestive property resides.* The food afterwards passes into the intestines, in the upper part of which it is mixed with the bile, which fluid has the property of separating from the food its fluid and nutritious parts, which are absorbed by the mouths of the lacteal vessels (the minute branches of which open on the surface of the intestines), and carried into the blood by a route I shall mention when describing the absorbent system, of which the lacteal is a branch.

* This inner coat of the stomach possesses some properties subservient to digestion which subsist after death: such is its power of coagulating milk by separating the curd, a process essential to the future digestion of that fluid. Rennet offers a familiar exemplification of this fact.

The innutricious residue of the food is removed from the body by a mechanical action peculiar to the intestines.

The more watery part of the food and of the drink, &c., is partly absorbed in the stomach itself, and partly in the intestines, and passes into the blood by the lymphatic branch of the absorbent system. The blood relieves itself afterwards of the superabundance of watery parts by means of the kidneys, and it passes from those organs into the bladder, in which a canal from each kidney terminates.

When the stomach receives habitually more food than it is capable of readily digesting, its powers become at length weakened by the excess of action thus forced upon it, and disease ensues. A too scanty supply, or innutricious food, also debilitates its powers, as well as those of the system at large. This fact is exemplified by the fatal effects that have resulted in many instances from taking even a moderate portion of nutritious food after a long compulsory fast, as in cases of shipwreck.

The process of digestion is attended by a

feverish state of the whole system. This state is called into action by the nervous excitement produced in the stomach by the quantity of new matter introduced into the organ. A temporary plethora of the vessels also takes place, from the immediate absorption of the fluid and watery parts of the food, which contributes to this effect.

After digestion is completed, the system returns gradually to its accustomed state.

4. ABSORBENT, OR LYMPHATIC SYSTEM.

This system is composed of two series of vessels, and a trunk, or receptacle, common to both: one set of vessels (more immediately connected with the digestive organs,) called Lacteals;—the other, Lymphatics.

The Lacteals, by the extremities of their minute branches opening on the surface of the intestines, absorb the nutritious part of the food, which has by digestion been reduced to a fluid resembling milk.

These vessels are spread over the surface of

the intestines and the membrane covering them. They terminate in the common trunk I have mentioned, which is called the Thoracic Duct, situated on the side of the spine, and opening into a vein situated on the left side of the body, in the immediate vicinity of the heart, and the chyle (as the nutritious fluid is called) is poured into that organ with the other more watery contents of the Thoracic Duct. The white colour of the chyle is detected mixed among the red blood of the left ventricle or receptacle of the heart, when that organ has been opened in a certain time after digestion. How the blood ultimately acquires its red colour in the warm-blooded animals, has been a matter of dispute: it is supposed to be owing to the presence of iron oxidated in the lungs.

The Lymphatic branch of the Absorbent System is a series of vessels distributed through every part of the body, in branches accompanying, and in some degree corresponding to, the sanguiferous vessels. Its use is to absorb the fluids which are thrown out continually by the exhalent vessels (which will be noticed in treating of the Secreting, or Glandular System) for the purpose of lubricating and keeping moist the

different cavities of the body, so that the two functions may be kept in that state of equilibrium which is consistent with health. It has been also supposed that a gradual absorption of the whole solid and fluid parts of the body is continually taking place by means of those vessels, whilst a deposition of new particles is as constantly effected by the extremities of the Sanguiferous System of Vessels; so much so, that the animal body which exists to-day is an aggregate of totally different particles from that which existed at a definite time back (a year, for instance). The theorists, however, who have broached this opinion, contend that the same change is always taking place in the constituent parts of the globe itself, by a similar process. As far as living animal bodies are concerned, there are some facts which would appear to bear out this theory, whilst others would go to oppose it,—at least to so great an extent as I have mentioned.

5. SECRETING, OR GLANDULAR SYSTEM.

By means of this extensive system, various fluids are separated from the mass of the blood : some of them for the service of different organs,

internal and external; others to be removed from the body as excrementitious, or to answer particular purposes in the œconomy of nature. The organs by which these changes are effected are called glands, and their structure, when accurately examined, seems to consist of a coil of extremely minute vessels, covered by a membrane, or containing-coat. The blood, it would appear, filters, or circulates very slowly, through these minute vessels; but this fact will not explain the wonderful change effected in them from blood into fluids, differing so totally in all their properties from that primary one and from each other. Bile, saliva, tears, the wax of the ear, or cerumen, are examples of secretions.

One common form of glands is familiar to every one: viz. that of a firm, almond-shaped body. Of those the glands of the neck and throat afford examples; but the liver, kidneys, &c., are also glands; even the brain has been declared by some physiologists to be but a large gland, from which they consider all the mental faculties as secretions.

Many secretions take place in situations where the glandular structure is not apparent; but,

from analogy, we may suppose it always to exist in a minute form in these cases; or, perhaps, the minute extremities of the blood-vessels themselves, in such instances, perform a secreting and glandular office: for example,—the most copious secretion of all is that which is continually going on from the surface of the body, and which is called the insensible perspiration: it usually passes off in the form of vapour, and is supposed to equal in bulk, in a given time, all the other secretions of the body put together; yet a distinct glandular structure is not detected in the skin—at least, not universally through that tissue.

I have mentioned, in speaking of the Lymphatic System, that the different cavities (for example, that in which the lungs, the heart, the intestines, &c. are contained) were lubricated by a secretion of fluid, which was necessary to preserve them in a state of healthy action. In some cases this secretion is required to defend the parts from the irritating nature of their contents (for example, in the bladder). The accumulation of those fluids constitutes disease, as I shall hereafter notice, in treating of the body in a state of disease.

The interstices of the Muscular System (which I shall next describe) are lubricated also by fluids contained in appropriate receptacles, or bags, for the purpose of facilitating the motions of the muscles amongst each other. The organs of sense have also their appropriate fluids: the lustre of the eye, for example, is preserved, and its motion rendered easy, by a fluid which is constantly poured over its surface, and which is prepared by a gland situated in the orbit. This fluid, by the nice mechanism which nature always exhibits, in those cases, is poured out most abundantly when there is the greatest occasion for the supply.

The colour of the hair, and of the eye, is also the result of a peculiar secretion,—in both instances manifestly a glandular one. The former secretion ceases at a certain period of life, when the hair becomes, in consequence, gradually colourless, changing, as age advances, from grey to pure white.

The change which is effected in this respect in the hair from grief, appears to be the result of the injury which the constitution suffers from the indulgence of that passion; when Nature, that

provident mother, feeling that the powers of life decay, exerts all her energies to support and preserve the vital organs, and can no longer, from her limited means, supply the outposts and ornamental parts of the system, as before, which therefore suffer, and are sacrificed. The hair, in those cases, also falls off partially, from defect of nourishment. Ill health produces the same effect, from the same causes.

Whilst on this subject, I may notice the extraordinary stories that have been told of the sudden change of the hair to grey in the course of one night, from the effect of violent grief. This effect is noticed by the able author of "The Life of Adam Blair," in that admirable work. The effect of fright is said to have been, in some instances, still more sudden, and to have instantly turned the hair grey. I should explain those cases on the principle of the spasm of the extreme vessels of the surface of the body (on which the secretion which colours the hair depends), which takes place under the influence of those passions, and also on the sudden debility of the minute extremities of the cutaneous nerves, on whose influence all the secretions of

the skin ultimately depend, which is induced from the same cause.

6. MUSCULAR SYSTEM.

This system is a much more extensive one than may, at first view, be imagined; for, not only are the loco-motive actions of the frame performed by it, but it has also a most material share in the performance of the vital actions themselves. This has been already exemplified in the instances of the heart and arteries; but it holds equally good with respect to the stomach, the intestines, the lungs, the bladder, the womb, and other important organs, in which a muscular structure is more or less developed, according to the necessities and mode of action of the organ. All the motions of the eye are performed by its muscles, which surround the eyeball, and the voice is totally subservient in its modulation to the delicate muscular system which surrounds the upper part of the windpipe (or the glottis); but the melodious powers appear to depend more

on the greater sensibility of those organs, and on the greater power of the will in adjusting their actions, than in their structure; for anatomy can detect no difference of construction between the vocal organs of a Catalani and of the Poissarde who is incapable of modulating the simplest air.

The system of the locomotive muscles is as extensive as the body itself, of which it principally constitutes the bulk. The limbs, by which the frame is moved in locomotion, consist of masses of muscle inserted into bones which serve as levers. The external bulk of the trunk, also, is composed of thick muscular layers, which are inserted into the bones of the limbs, thus moving them on the trunk, as the muscles of the limbs move the bones of the latter on each other.

At their extreme parts the limbs are minutely divided, in order to allow of their performing minute and complex motions (as is exemplified in dancing), also to give a more extensive surface to the organ of touch, and to enable that sense to be exerted with that nicety in determining the properties of bodies cognizable by it which is requisite to our safety or comfort.

The various changes of expression which the face exhibits under the influence of the various passions (in laughing, &c.,) are effected by means of its numerous minute muscles. A palsy of the nerves, influencing those muscles (which has been purposely produced in the lower animals by tying or dividing them) deprives that side of the face on which it takes place of its expression. In the case of the dog this is very remarkable, for, under the influence of rage, purposely excited after the operation, one side of the face exhibits strongly the influence of the passion, whilst the other remains totally passive.

The tongue is a mass of muscle, into which are inserted many others, arising from different parts of the neck and jaws; some at a considerable distance from the organ in which they terminate. The numerous and varied motions of the tongue in articulation need not be dwelt on.

Swallowing, or deglutition, is effected entirely by muscular structure. Many of the muscles which move the tongue also perform this function, thus acting in a double capacity. The mecha-

nism by which this is effected, is not the least curious exhibited in the structure of the body. It is effected by means of a moveable bone in the upper part of the neck, which serves either as a pivot, or a moving power, according to the nature of the function to be performed.

Respiration is principally performed by a large muscle, which is stretched across the centre of the body internally (the Diaphragm). Its motions are alternate with those of the muscles which elevate the ribs, and by their successive actions that function is performed which (such is the consent of actions which prevails in the animal œconomy), very materially assists in accomplishing digestion.

The preservation of the body in an upright posture upon the feet is mainly accomplished by a constant but unperceived muscular action ; for it has been found impossible to construct any figure similar to the human one in form, which would preserve that position without being fixed or supported. All the locomotive muscles probably contribute more or less to this effect. It may, however, be imagined, how much the difficulty and intricacy of this action must be in-

creased in preserving the equilibrium of the body on a moveable base much narrower than that of the foot, as in the feats of the rope-dancer.

One of the most important actions of the Muscular System is the power that it exerts of moving the blood in its course towards the heart in the veins, which are themselves passive organs, incapable of exerting any power over their contents.

The utility of exercise in promoting health, is, in that respect, referable to its increasing this salutary action; it also assists in digestion, and in giving an increased supply of oxygen to the blood, by the more frequent respiration which takes place, and also by the change of place, by which a larger and purer supply of that principle is constantly gained.

The power and vigour of the Nervous System is also materially augmented by exercise procured by muscular exertion. Secretion is also materially aided by muscular action, the motion of a secreting organ in every case contributing materially to increase the amount of the secretions made from it.

Thus, it appears that the Muscular System is subservient to the other systems we have been describing, and that, in its own more peculiar and appropriate actions, they are no less subservient to it,—the Nervous, the Sanguineous, the Digestive, the Lymphatic, and Secreting systems, being all essential to the due performance of muscular motion. The same will hold equally good with respect to the four other systems that remain to be described: viz. the Osseous or Bony; the Ligamentary; that of the Senses; and, finally, the Genital, or Reproductive System.

OSSEOUS, OR BONY SYSTEM.

This system is generally described first in anatomical works, as it forms the mechanical basis of the body, to which it gives that stability and firmness necessary to the performance of its functions. Its detail, though extremely necessary to be studied and known by the practical surgeon and the scientific physician, is found extremely tiresome, dry, and laborious, by the student.

It will only be requisite here to take a very general view of it, which will be found sufficient to

render intelligible the physiological remarks suited to the design of this treatise.

The position of the bony parts is in some animals altogether exterior to that of the muscular soft parts (as in some shell-fish—the turtle, the tortoise, the crab, &c.) In the warm-blooded animals (as man, &c.), it is interior to the muscular structure; but in both cases the design is the same, viz. to protect the vital organs, and to serve as levers to the muscles, and as a solid resisting fabric and *point-d'appui* for their actions.

The brain, being the most delicate and important organ of the frame, and which will least of all support external pressure or injury, is enclosed in a solid bony case. This is composed of several separate bones, which lock into and mutually support each other. By this structure it is rendered less liable to injury than if it was composed of one continuous bony texture. Fractures, also, from the same cause, when they do occur, are limited in their extent, unless the cause producing them is a very violent one. The bones of the skull are pierced by a vast number of holes, which give transmission to the nerves

that proceed from the organ. The most remarkable of those are the nerves of the senses, and of the organs subservient to them (the Olfactory, the Optic, the Auditory, the Gustatory; or, those of Smelling, Seeing, Hearing, and Tasting). The organs of the three first-named senses are lodged in receptacles adapted for them in the bony fabric of the skull.

The spinal marrow passes through a large hole adapted for it in the lower and back part of the skull, and from thence passes through the spinal column of bones (25 in number), through a canal formed by the junction of all those bones.

The skull enjoys a motion of a limited extent on the upper bone of the spinal column, by means of a joint formed between it and that bone. All the spinal bones of the neck, seven in number, have likewise a limited motion one upon the other, the sum of which, however, is considerable. By this contrivance the head can be turned to one side, without risk of injury to the spinal marrow.

The spinal bones of the back are twelve in number. To these the ribs are attached in a

peculiar manner on each side, by a small double joint. This mechanism renders the motion between the spinal bones of the back a very limited one, which is desirable, as a greater extent of motion would be injurious to the functions of the heart, lungs, liver, and stomach,—organs that are covered and protected by the ribs and spinal bones.

The five lower spinal bones are those of the loins, which have a motion between themselves, less extensive than that between the bones of the neck, but more so than that between those of the back. This arrangement allows of our turning the whole trunk of the body round to a certain extent, and also of its being bent forward and backward—actions necessary to the purposes of life.

It is to be observed, that between the spinal bones are placed gristly substances (Called cartilages), whose elasticity contributes to the motions of the trunk, and to the general pliancy of the spine. These cartilages become less elastic as age advances, so much so, that in very old age they are almost wholly converted into bones (ossified.)

All the motions of the spine are performed by muscles inserted into its bones. The spine terminates and rests upon a fixed bone (the Os Sacrum), which forms a solid base for it; to the lower part of the Sacrum three small bones are attached, which curve inwards in man, and serve to support the intestines, at their lower part. In quadrupeds those bones are more numerous, and form the basis of the tail, which in some animals (as cats, greyhounds, &c.), is very flexile, and useful in balancing the body in some of their rapid motions; quadrupeds, from their form, not requiring the intestines to be supported at their lower part.

A large bason of broad bones is formed at the lower part of the trunk: it is attached on each side to the basis of the spine, and serves to contain and support all the loose floating bowels (the intestines, the bladder, and the womb in the female). To the lower and outside part of this bason, on each side, the bones of the thighs are jointed; to those again the bones of the leg; and to those the bones of the foot, terminating in those of the toe.

The arms are attached to the upper part of

the trunk, below the neck; but, as a greater latitude and extent of motion is required in those limbs than in the lower ones, an intervening link of bones is interposed between them and the trunk (the blade and collar bones). This arrangement, amongst other advantages, gives a similar one in principle to that afforded by springs in carriages, by breaking the force of shocks experienced by the upper limbs in their motions, and preventing their being communicated with an injurious effect to the trunk, in the upper part of which the vital organs are situated.

The above is a general survey of the Bony System, and will serve to convey as accurate an idea of it as the limits of this work will admit of.

The bones, like other structures, are supplied with blood-vessels, which serve for their nourishment, by the medium of a membrane which covers them and lines the cavities of the hollow bones, and in which the marrow is contained. They are also supplied with nerves in the same manner. Those membranes are extremely sensitive, as the sufferings experienced when they are in an inflamed state demonstrate. The injuries done to bones are remedied, and the fractures they are

subject to united, by the action of their blood-vessels. These separate from the blood, and deposit a glutinous substance which is afterwards converted into bone.

8. LIGAMENTARY SYSTEM.

Connected with the Bony is the Ligamentary System, or that by which the different bones are tied together at the joints. The Cartilaginous System naturally joins itself to the Ligamentary one.

The cartilages are solid gristly bodies, possessed of elasticity, which are interposed between the ends of the separate bones, at the joints. They serve the purpose of modifying the force of motion by dividing it, of preventing the effects of friction, and of acting as springs. Each joint is covered by a bag, which contains a fluid proper for keeping the joint moist, and enabling its parts to play freely upon each other.

The ligaments in some cases act as pulleys, giving a change of direction to the muscles passing through them: this is exemplified in one of

the muscles of the eye and in one of the throat. Sometimes the pulley is formed in the joint itself; as in some of the muscles moving the foot.

The cartilages, however, are not altogether confined to the joints. Some other parts, in which it is desirable that a certain degree of solidity should be united to pliancy, are composed of cartilage (for example, the lower part of the nose, the ear, the edges of the eyelids, a part of the ribs and breast-bone, the front part of the windpipe, and a part of the organ of voice surmounting it, &c.)

Whilst on this part of the subject, I may notice the arrangement by which the food is enabled to pass over the orifice of the windpipe into the gullet behind it, without being permitted to enter the former. A bridge, composed of cartilage, is so constructed as to fall down over the opening as the morsel of food approaches it,* and to rise up again after it has passed: this it performs so effectually as to prevent the smallest particle of food or drink from entering the wind-

* The same action which causes the gullet to ascend to receive the morsel, causes the *epiglottis*, or cartilaginous bridge, to fall over the *glottis*, or opening of the windpipe, and the descent of the gullet in swallowing causes it again to ascend.

pipe, unless the action of speaking or laughing is attempted to be performed at the time of swallowing; in which case, as a respiration is commenced, the cartilaginous bridge is naturally elevated, and some of the food gets into the windpipe, which is generally, however, driven out again by coughing. In children, death has ensued from a large substance (as a bean or button), having got into the passage.

The tendons, in which many of the muscles terminate, are of a ligamentous substance.

9. SYSTEM OF THE SENSES.

The organs of sense have already been incidentally alluded to. They form that system by which we hold our relations with external things.

The first in importance is that of—

THE SIGHT.

The principles of Optics I will presume to be already understood by those who will peruse this treatise, as it forms a part of a liberal education. I shall not, therefore, here treat of that science.

The eyeball is surrounded by powerful muscles, which move it in every direction with extreme rapidity. The iris, or coloured part of the eye, also appears to consist of muscular fibres in its front, or anterior part, which are called into play by the effect of light, and thus contract the diameter of the pupil or aperture in the centre part of it, by which is prevented the striking of a too great quantity of rays on the sensible optic nerve, which expands on the internal and back part of the eyeball; those fibres relax again, and expand the pupil, when the quantity of light is diminished.

Besides the optic nerve, which is peculiarly that of vision, the eye is supplied with a vast number of nervous filaments proceeding from another nerve (the fifth pair). These are the sources of its common sensation, which is extremely acute.* It is also furnished with its blood-vessels, which are so minute that, in a healthy state of the organ, they do not admit the red particles of the blood to circulate through them, and are, therefore, colourless. In an in-

* The fifth pair of nerves is connected with the Sympathetic or Ganglionic system of nerves.

flamed state of the eye these vessels are enlarged and become apparent.

The peculiar structure of the eye, which fits it to collect the rays of light into a focus, consists of a series of three lenses, of different degrees of density, and of course of refracting power : this structure is described in works on Optics. To those acquainted with the construction of the telescope, the mechanism of the eye will be very intelligible. The same construction is found in the natural and the artificial instrument, even to the colouring matter which is spread on the inner surface of the latter, a parallel to which exists in the *pigmentum nigrum* secreted by the interior surface of the eye ; the design of both being to prevent a reflection of rays from those parts which would interfere with the distinctness of the image.

The eyelashes not only contribute to the beauty of the eye, but serve also to moderate the effect of strong light by shading it, and to protect the organ from the ill effects of dust, &c.

Under the head of the Secreting System, I have spoken of the lachrymal gland, by which the

moisture necessary to preserve the eye in a bright state, and to facilitate its motions, is furnished to it. This secretion has the name of "*tears*," when so copious as to overflow the lids. It is excited, not only by irritating causes applied to the eye itself, but also by passions of the mind. The effect of the latter is doubtless, in some degree, referable to the connexion we have noticed above, as existing between the fifth pair of nerves (which supplies the lachrymal gland), and the Ganglionic or Great Sympathetic System: but it is chiefly so to the general irritability of the eye and its appendages, which causes those organs to sympathise readily with the general irritation of the Nervous System, which takes place under the influence of certain passions. Where the irritability of the system is the greatest, this effect is most readily produced, as in women and children; thus, also, some diseases of the Nervous System are attended with weeping (as *Hysterics*).

In general, the moisture of the eye is kept in a state of equilibrium by a beautiful apparatus, the lids being pierced on their inner edges by two small holes, the openings of two small canals which lead into a reservoir, or bag, placed close to the upper part of the nose, from whence the

moisture of the eye constantly, in a state of health, passes into the nostril.

When those canals are impeded, a peculiar disease is constituted.

The watering of the eyes which takes place in colds arises as much from a partial obstruction to the passage of the lachrymal moisture, from the swelled state of the membrane lining the nostrils, as from an increase of that secretion.

OF HEARING.

The doctrine of Sounds I shall omit to treat of, for the same reason as that of Optics.

The mechanism by means of which the vibrations of sound are conveyed to the mind, is, to use the words of Charles Bell, in his "Anatomy," "the most beautiful which the mind can contemplate." He adds,—“We cannot say that it surpasses in beauty the structure of other parts of the body; but the parts are adapted to each other in a manner so simple, efficient, and perfect, that we can better understand and appre-

ciate the harmony of their structure than that of organs which perform their functions by qualities and actions almost entirely unintelligible to us."

In order to have a complete idea of the beautiful structure of the Ear, as well as that of the other organs of sense, Charles Bell's description of them should be studied. No work that I am acquainted with gives so accurate, philosophical, and, at the same time, so interesting an account of their structure and functions as his.

I shall here endeavour, in a few words, to give a general idea of the structure of the organ of hearing.

This organ is contained within one of the hardest bones of the body, which forms a part of the skull. The Auditory Nerve (or that of hearing), perforates it on the inside, as it issues from the brain, and, after running for a short way along the canal formed for its passage, is stopped by a sieve-like plate of bone, perforated with innumerable minute holes, through which the nerve passes, reduced to filaments of a most delicate fineness. These filaments are distributed on the surface of small sacs distended with a fluid,

which are contained in the bony spiral cavities and winding canals of the organ, and, becoming still more minute, pellucid, and pulpy in their structure, their extreme terminations float in the transparent fluid of those sacs, and become affected by the vibrations of sounds from without.

Those vibrations strike the drum of the ear, which is a membrane stretched across a passage leading from the external ear into the first of the internal passages of the organ, which is called the *cavity of the tympanum*. This cavity is filled with air, which it receives from without by a canal, or passage, opening into the mouth behind the nostrils.

Connected with the drum is a chain of four small bones, jointed together, and moved by a peculiar muscle, which answers the same purpose as the braces of a common drum to that instrument, by rendering that of the ear tense or relaxed, according as the degree of intensity in the sound may render the one state or the other necessary.

These bones are connected, at their external termination, with another membrane or drum,

which shuts up the passage leading to the cavities I have spoken of as containing the sacs distended with fluid, in which the extremities of the auditory nerves float. Those cavities are called the Vestibule, the Semicircular Canals, and the Cochlea.

From this description, it may now be comprehended that the vibrations of sound striking the external drum cause it to vibrate (as it has air on both sides of it)—that those vibrations are continued along the chain of small bones, which propagate it to the internal drum—that it is communicated to the fluids within, circulates through them, and becomes perceptible to the sentient extremities of the auditory nerve which float in them.

It may also be comprehended how colds, by thickening the membrane of the nostrils and adjoining parts, and blocking up or obstructing the opening of the passage leading from the mouth into the cavity of the tympanum, cause a temporary deafness; how sounds (as the ticking of a watch, for instance) may be heard when the ears are stopped, by putting the sounding body into the mouth; why, in blowing the nose strongly,

the drum of the ear is often felt to be forced outwards; why, after immersing the head into water, a singing in the ear and confusion of hearing takes place, the vibrations of the drum being first suspended and then rendered irregular by its sudden immersion into a non-elastic *fluid*,* and its return into its natural medium.

The external passage of the ear, leading to the drum, is constantly, in a state of health, kept moist by a thick viscid secretion: one object effected by its viscosity is to prevent the entrance of insects into the passage; they are soon enveloped by the secretion, which their efforts to escape cause to be poured out more abundantly (on the principle we have already spoken of in treating of the Secreting, or Glandular System), and are destroyed. A number of stiff hairs also grow from the sides of the passage, which cross

* It is a fact, which I have not seen noticed, that the singing of the ears does not usually take place if the head is immersed the back part first. In this case, I apprehend that the cartilaginous or external ear acts as a valve, and moderates the sudden rush of the water into the external opening, and that thus the drum becomes more gradually accustomed to the new medium, and, the impression not having been so forcible in the first instance, it returns to its natural vibratory state with less effort on emerging.

each other in the manner of chevaux-de-frise: these oppose a further barrier, and serve to retain the secretion.

OF SMELLING.

The nerve supplying this sense is arranged in a form similar to that of hearing.

It is a flat soft nerve, and lies upon a seive-like bone, forming the roof, as it were, of the nostrils, through the numerous holes of which bone the delicate filaments of the nerve pass, and are distributed to the membrane lining the nostrils, the surface of which is extended by passing over small spongy bones placed in the passage, and by being thrown into folds resembling the leaves of a book, or, rather, those found in the intestines of granivorous animals. The membrane is kept moist by a constant secretion, which, however, like other secretions we have spoken of, is kept in a state of equilibrium in health. By cold or irritating substances applied to the nostrils, it is increased in an undue degree, and flows from the nostrils.

The sense of smell, as possessed by man, is by no means comparable in perfection and extent to that possessed by other animals. The extreme acuteness of this sense, as possessed by certain species of dogs, is well known; of those animals the Blood-hound (a breed formerly used by the Spaniards in the West Indies for the purpose of hunting out run-away slaves) appears to surpass every other species in the acuteness of the sense: the stories related on this subject seem almost miraculous.

It is observed by Charles Bell, that “smelling is the least perfect of the senses,”—that “the sensations it presents to us we can less easily recall to memory;” and that “the associations connected with it are less precise and definite than those of the senses of seeing and hearing.” This will only, however, apply to man; for it is evident that it is chiefly through the medium of this sense that the inferior animals exercise their associating powers. Any one who may have observed the actions of a dog, in his mode of recognising a person long absent, will be convinced of this. It is evident that he has an accurate recollection of the minute difference of odours, as existing in the secretion from the skin in different

individuals, and that he does “recall to memory the sensation the sense presents to him.”

There appears to be a very great affinity between the sense of smelling and that of taste. This might, indeed, be presumed from the fact that the seat of the one sense is an immediate continuation of that of the other. This results from the circumstance of the two organs, to which those two senses are, as it were, subservient, having their common passage in the mouth and throat (or fauces). Those two organs are the lungs and stomach; the sense of smell being chiefly subservient to the first, that of taste to the latter; their sympathies, also, are on this account considerable. A fetid and disgusting odour will thus often cause sickness of the stomach.

OF TASTING.

The nerve of this sense is distributed over the tongue, palate, lips, inside of the cheeks, throat, &c.; it is most acute and discriminating towards the point of the tongue, where that

organ is covered with a number of little eminences (called papillæ) of a bright red colour, which have the power of erecting themselves, by which their sensibility is increased, and, of course, their gustatory, or tasting powers. This arrangement is strongly manifested in the cat.

The whole surface of the organ of taste has an acute sympathy with that of the stomach; its powers become vigorous or languid in accordance with those of that organ; and this to such an extent, that an examination of the state of the surface of the tongue has become with physicians a criterion of that of the digestive organ.

Tasting being a sense very subservient to luxury, the powers and sensibilities of that sense are much more extensive in civilized than in rude and barbarous countries.

The gourmand becomes sensible of the slightest shade of error in the preparation of his favourite dish; the tippler can ascertain to a nicety the growth and vintage of his wine. Cervantes, in his *Don Quixotte*, gives us a story of one of the latter, so profound from the practice of his art, that he could distinguish the smack of

leather and iron in a pipe of wine, which, on being emptied a long time afterwards, was found to contain a padlock-key attached to a leather string, which had dropped into the vessel by accident. This extreme sensibility is, no doubt, often affected ; but we are aware that the powers of every sense are increased by an exercise of them, when not carried to the extent of injury to the organ itself.

OF FEELING.

We have lastly to consider the sense of Feeling, the most universal sense in nature. This sense is found to prevail in animals in whom there is no evidence of the existence of any one of the other four senses, as in some shellfish, polypi, &c.

Its seat is the surface of the whole body, but more particularly, in man, the extremities of the feet and hands, in which parts an arrangement in some respects similar to that of the papillæ of the tongue takes place—that is, there prevails a kind of erectile tissue : by those parts we ascertain the minute distinctive qualities of bodies.

There are other organs of the body endowed with a still more acute sense than those I have mentioned, as the nipples of the breast, the lips, &c. &c. ; but, as they are subservient to the functions of another system, which I shall treat of in the next section, I shall not dwell upon them here. This sense serves to correct the impressions made by the other senses, and to verify them.

The impressions, for example, made by vision, are totally vague, uncertain, and useless to the purposes of life, until corrected and arranged by the sense we are considering. Infants, it has been remarked, and persons restored suddenly to sight, of which they had been deprived in infancy, have really no power of vision useful to the purposes of life ; they can form no estimate of the distance, size, shape, &c. of bodies. These are afterwards ascertained by the conjoint exercise of the powers of vision and feeling ; nay, even after years of practice, we are still liable to be deceived by the exercise of the former sense alone, if objects are presented to it under circumstances different from those under which we have ordinarily surveyed them, and we again require to exercise

the old sense of feeling in order to form an accurate judgment of them. I remember having been shown, a few years ago, some designs painted in a very bold relief in one uniform grey colour, to resemble marble, and I could not be persuaded, until I touched the paintings, that it was not marble cut into the forms they represented, which was merely the effect of light and shade.

In persons blind from infancy, this sense (feeling) acquires an extraordinary acuteness; so much so as nearly to compensate the loss of the sense of vision. Such persons can often distinguish by the touch the features, and even the limbs and hands, of persons they have formerly met with. The story of Carolin, the celebrated Irish Harper, recognising in this way his old sweetheart, Biddy Cruise, as he handed her into a boat in Lough Derg, is well known.—“By the hand of my gossip, this is the hand of Biddy Cruise!” are words which will be as immortal in Ireland, amongst the admirers of the national music, as the bard’s productions.

All our common sensations of comfort and enjoyment are referable to impressions made on

this sense : warmth, repose, cleanliness. Physical love, and the reproduction of the species, depend upon a modification of it.

10. GENERATIVE, OR REPRODUCTIVE SYSTEM.

The systems we have hitherto been considering have all reference to the preservation and wants of the individual ; that which we are now to consider is subservient to the continuation of the species.

Nearly all the other systems enter into the formation and structure of the reproductive organs. We have the Nervous, the Sanguineous, the Secreting, the Muscular, the Ligamentary, the Lymphatic systems, exemplified here. We have also the structure belonging to each of those systems here developed in the most perfect and elaborate form, and endowed with a modification and energy of action necessary to the important function to be performed by those organs ; we have all the remaining systems,—the Digestive,—the Osseous,—that of the Senses,—more or less, remotely subservient to the same purpose.

It is not my purpose, on *many accounts*, here to enter into anatomical details connected with this system: they may be studied elsewhere, and will abundantly gratify the philosophic inquirer.

It is to be observed that this system is not developed until the body has acquired nearly its full growth.

Human life, like that of plants, naturally divides itself into three periods,—that of growth, of perfection, of decay. In the former those divisions seem to be nearly equal in duration, and to the second of them (that of perfection) the exercise of the reproductive faculty *properly* belongs.

Nature has ordained that this faculty should only be exercised when all the functions subservient to individual existence are in perfect vigour and health: her first object being the preservation of the individual; her second, the reproduction of the species.

Like many other of nature's ordinances, this one is often violated, but never with impunity;

for, as the exercise of the function, in a state of health, is beneficial to the health of the individual, under contrary circumstances the reverse takes place, and nature admonishes us, with a loud voice, that “*we must not attempt to impart life to a new being, whilst our individual existence is insecure.*”

It is a curious circumstance (somewhat at variance perhaps to the natural ordinance I have mentioned), but which marks the anxiety of Nature to compensate for the loss of one individual whose destruction is decreed, by the creation of another, that women far advanced in pulmonary consumption are remarkably liable to become pregnant, and it is well known that such pregnancy arrests the mortal progress of the malady, the symptoms of which are all suspended, as it were by magic (even in the worst cases), until the accouchment takes place, when they generally recur with increased violence, and soon hurry off their victim.

In connexion with the above fact is another, equally well known to medical men, viz. that the wives of men sinking under the same complaint generally become pregnant a short time before

their husbands' death (although probably for some years previously they had not been in that state), and it is a common circumstance to see a man in the last stage of consumption supported to an hospital by his wife far advanced in pregnancy.

This fact was noticed to me at a very early period of my medical career, by a celebrated hospital physician of Dublin (Dr. John Crampton), to which he added some other facts, which he had verified by many inquiries that his peculiar situation and profession had enabled him to make from the wives of consumptive patients, which left no doubt on his mind that, in the latter stages of that cruel disease, there existed a temporary increased disposition to the exercise of physical love. The same fact has been noticed to occur in other diseases (leprosy, for instance); as is mentioned in Vanini's Travels in Egypt. The increased irritability of the nervous system has probably some influence in producing this effect.

SECTION II.

OF THE ANIMAL SYSTEM IN A STATE OF DISEASE.

WE have taken a rapid view of all the systems which compose the animal frame in man, as they exercise their functions in a state of health. We have now to consider the general principles of diseased actions, the changes that are induced by them in the functions of the several systems generally, and to notice the changes of structure which at length take place in the very texture of the organs themselves by their continuance, the latter being the most general cause of what are termed chronic diseases, or such as last for a long time without any remarkable change in their symptoms taking place.

Conformably to the last view of the subject, one general classification of disease has been made by writers, viz. into diseases of function, and diseases of structure.

Keeping this division in view, it will, however,

be found necessary to consider the subject with reference to another arrangement of disease, and in applying the principles I shall lay down, I shall proceed as I have hitherto done, by considering the different symptoms separately as affected by disease. It must not, however, be conceived that disease can exist in any one of the systems of the animal frame, without manifesting itself also in the others: this might indeed be inferred from what has already been shown of the intimate, circular, and mutual relation and dependence which any one system holds with all the others; but, as diseases generally manifest themselves more decidedly in one particular system than in another, they may be conveniently considered in the order of the systems themselves, more especially as that is the arrangement which I have adopted in taking the philosophical survey of the frame, to which the first section of this treatise is devoted. Life, I have already remarked, has been defined to be "*motion*," and, assuming it to be so, it appears to me that all diseases (before structural changes take place), may be divided into *increased actions* and *retarded actions*: these, perhaps, will admit of subdivision, according as the increased or retarded action may be a simple or a vitiated one.

I have before observed that all motion originates in the Nervous System, and, conformably to this view, all diseased actions, whether accelerated or retarded ones, might no doubt be traced back into affections of that system; but this would be to take too abstract a view of the matter, and one not calculated to elucidate information on the subject.—I shall therefore adhere to the plan I have proposed.

It is here to be remarked, that some writers have supposed that every *accelerated action* of the system was an effort of nature to remove the cause of disease (thus, the violent action of the sanguineous system in fevers is, according to Dr. Cullen's Theory, an effort of nature to remove the spasm of the extreme vessels of the skin, which he supposed to constitute the essence of the disease), which cause they supposed to be of a sedative or retarding nature. Thus, according to this theory, we should have retarded actions only as disease,—accelerated ones as natural means of cure.

There is certainly a disposition in the constitution of the animal frame to free itself of diseases by a spontaneous effort of its own, and this has

been called by physicians the “*Vis Medicatrix Naturæ*.” It is certain that we in many cases attempt the cure of disease by exciting the action of the system, thus in some degree sanctioning the above theory by our practice; but it is equally certain that increased action (whatever may be the origin of it in the first instance), does in itself frequently constitute the disease as it presents itself to us, and that it is by removing or lessening such increased action that we ultimately succeed in curing the complaint.

Nothing in medicine seems to have been attended with more unfortunate results than this theorizing on abstract principles, and endeavouring to square the practice of the art to preconceived notions of disease, however useful such views may be for the purpose of classification and arrangement. The botanist marshals his plants according to the system of Linnæus or Jussieu, but he would be sadly disappointed were he to attempt to subject them to a culture conformable to their classes and orders, or look for corresponding properties and uses in them. The system of medical practice called the “Brunonian” (from its founder, John Browne, of Edinburgh), gave a miserable exemplification of the ill-success of such attempts

as I have spoken of.—The author set out with this very principle of accelerated and retarded actions, regarding the latter as disease, the former as the remedy. His practice was conformable to this view, and consisted in means calculated to excite action (viz. of stimulants), and was eminently injurious and unsuccessful.

Before closing these general remarks on diseased actions, it is to be observed, that the increased action of any function or organ naturally tends to produce a retarded one ; as also that when any system or part of the animal frame takes on an action beyond the limits of its healthy powers, such a state is followed by one of *collapse*, during which the natural force and power are accumulated, to admit of the organs resuming their healthy functions. This rule has a more particular reference to the Nervous System, even the healthy functions of which require a periodical state of collapse, or repose, to fit them to be resumed, as I have already observed, in speaking of sleep, in the former section.

An exemplification of the former remark has been afforded frequently in those unhappy countries where persons are subjected to the tortures of the rack. When the unfortunate sufferers

have been for some time subjected to those cruel torments, it is well known that, on the instrument being relaxed, they instantly fall into a deep sleep, and remain in that state until roused from it by a renewal of their sufferings. The same fact I have frequently witnessed in severe and protracted surgical operations, and it also occurs in child-birth, the patient constantly falling asleep in the intervals of her pains; so provident a mother is Nature, and so careful to husband the resources of life.

So imperious is the necessity of this periodical state of *collapse*, that it has been found physically impossible to persevere in watchfulness beyond a very limited period. An experiment was instituted at one time by a philosophic physician to ascertain the extent of this period. He contrived to keep himself awake for two successive nights by stimulants (coffee and snuff); on the third night, feeling the approach of sleep to be irresistible, he had a vessel of boiling water placed in such a position that, on the approach of sleep, his arm dropped into it; in despite of this arrangement, however, sleep speedily overtook him, and continued uninterrupted by the injury inflicted on his limb, by which he was confined for a considerable time afterwards.

The most extraordinary circumstance connected with sleep (and which would seem to militate against the hypothesis which has been advanced), is, that volition and motion may be exercised, and sleep still continue uninterrupted, as in the case of somnambulism. If we can give credit to all the tales that have been related on this subject, even all the *intellectual* powers can be exercised in that state. I have read one in which the somnambulist, a clergyman, it is said, used to get up in the night, light his candle, write sermons, correct them with interlineations, and retire to bed again, being all the time fast asleep, his eyelids closed, &c.

Somnambulists are also said to walk in safety in the most perilous situations (along the edges of precipices, on the parapets of houses, &c.), such as they could not place themselves in during their waking hours, without a certainty of destruction. Many of those relations are no doubt highly exaggerated; the real facts, however, connected with somnambulism, are extremely curious and interesting.

This state must, I think, be admitted to be one depending on diseased function of the brain and Nervous System, and accordingly we shall find

that it has usually occurred, in its most intense form, in persons in whom the organ of thought has been unduly excited, as in the severe student who has pursued his literary labours during the hours destined to repose—the criminal whose mind is haunted by the recollection of unatoned crimes. The immortal Shakspeare gives us, in *Lady Macbeth*, a somnambulist of this latter kind ; and the scene in which she is represented as wandering at midnight through the vast silent chambers of her palace, dwelling in mysterious and broken sentences on the deed of horror that had placed a crown upon her head, is perhaps the most impressive in the play.

I may here remark, with reference to the arrangement I have adopted of diseases according to the system affected by them, that I have chosen that arrangement only with a view to convenience in describing them. It is not my object, in a popular production like the present, to offer any new system of Nosology ; indeed, one similar to that which I have adopted has already been given to the public by Dr. Mason Good, in his “*Study of Medicine*.”

No system of Nosology can, in fact, ever be formed, in which the diseases placed under one

particular head or order, would strictly belong to it *only*, unless it were in the mechanical and unscientific classification of diseases according to the parts of the body affected, where the subjects would have as little relation to each other as the words in a dictionary.

Dr. Good, in commenting on the Nosology of Cullen, laments that “the same principle has not been allowed to pervade the whole of his Nosological plan as in his class of Nervous Diseases,” that is, of classing diseases according to the Systems affected by them; and yet, whilst he praises “the able accomplishment of that part of the subject” by Dr. Cullen, he takes *colic* from the class of *Nervous Diseases* (of Cullen), and puts it in his own work into his class “*Cœliaca*, or Diseases of the Digestive Function,” to which it perhaps belongs as naturally as to the other; thus exemplifying the remark I have made as to the difficulty of classing diseases according to any system.

1. OF DISEASED ACTION, AS MANIFESTED CHIEFLY IN THE NERVOUS SYSTEM.

In looking over the list of diseases given by

Dr. Cullen, in his Nosology, with a view of subjecting them to the arrangement I have chosen to adopt, I should take the following diseases as exemplifying the above head of disease: viz. Nervous Apoplexy, Tetanus or Locked Jaw, Convulsions, St. Vitus's Dance, Epilepsy, Palpitation, Chincough, Nervous Colic, Nervous Diarrhoea, Hysterics, Hydrophobia, Furious Madness, Disturbed Sleep. The above I would class as accelerated actions. As retarded ones, I should class Palsy, Fainting or Swoon, Dyspepsia or Indigestion, Hypochondriasis or Vapours, Chlorosis or Green Sickness, Asthma, Melancholy Madness. This classification would agree pretty nearly with that of Dr. Cullen as to Nervous Diseases; but in speaking of the diseases of the other systems, our arrangement will differ materially from his; for (as Dr. Mason Good remarks), his class of Nervous Diseases is the *only* one in which he has arranged disease according to the system chiefly affected by it.

It may easily be comprehended that nervous excitement, and its consequence (accelerated action of the Nervous System), may vary in degree from that producing a temporary tremor, palpitation of the heart, slight colic, or uneasy sleep, to that

causing furious madness, racking convulsion, locked jaw, and epilepsy. It has been before observed that the powers of thought, the voluntary or muscular motions, and the involuntary or vital ones, are all actions of the Nervous System. These may be separately or altogether affected by disease.

The diseases we have enumerated, although all affections of the Nervous System, arise from causes of the most different nature. Palpitations of the heart, cholic, convulsion, diarrhœa, hysterics, may be occasioned by moral causes altogether, as fright, anxiety, anger, joy. Some of them may be occasioned by structural disease: thus, convulsions and epilepsy often have their origin in tumours pressing on a part of the brain itself. Some nervous diseases, as hydrophobia, colic, may be occasioned by the operation of certain poisons which seem to act altogether on the Nervous System: as, the saliva of a mad dog; the salts and oxydes of lead, &c.

The effect of moral causes in producing madness, that most deplorable of all nervous diseases, is well known. This malady, however, it is manifest, also originates from physical causes; in some instances it probably depends

upon peculiar conformation of the brain itself (as in hereditary madness), or of change of structure in the organ (as from wounds). Occasional physical stimulants may produce it, as exposure to the power of the sun in tropical climates, the action of some medicines, as mercury.

Epilepsy seems in many instances to have been caused by great mental efforts: in this way we may account for the circumstance of the most celebrated characters that have appeared on the theatre of the world having been affected by that disease. Cæsar, Mahomet, Napoleon, it is well known, were the subjects of it.

Whilst accelerated action of the Nervous System depends upon so many causes, it must be obvious that no *one* plan of treatment can be adopted for its removal. In this, as in many other departments of medicine, it is, that the judgment of the scientific and enlightened physician is valuable, to detect, by the exercise of that judgment, matured by reflection and investigation, the hidden causes of disease, and to apply the means which the circumstances of the case demand, for its removal. He will not waste or misapply the resources of art in cases unfitted to them; the

true dignity inseparable from science will induce him to lay aside the vile grimace which characterises the pretender to it, and to give a candid and intelligible statement of the opinion he has formed to the anxious friends of his patient; whilst the honourable feelings which equally attach to it will prevent his making a mercenary trade of his profession by *drugging* his patient, a proceeding from which less benefit can be hoped in nervous complaints than perhaps in those of any other class.

Amongst the complaints occasioned by the operation of moral causes on the Nervous System, I have mentioned diarrhœa.* The effect of the passion of fear in producing this complaint is indeed proverbial: the fear of the pedagogue's rod has often been found as powerful a purgative as jalap. In vindication, however, of the poor schoolboy, it should be noticed, that the Nervous System is much more irritable in childhood than at any other period of life; but in the field of battle, also, the effect of the passion of anxiety (one allied to fear) has often obliged the soldier to retire to the rear of his company.

* That species of the complaint properly called *Nervous Diarrhœa*, is here alluded to.

Hippocrates gives us, in one of his Aphorisms, the remark that “ Stutterers are very subject to diarrhœa, or looseness.” I find that the same remark is proverbial amongst the people in Ireland, and no doubt elsewhere. I remember to have once had rather a ridiculous exemplification of this fact. I had, some time back, a servant who attended me during some botanical excursions ; he was a confirmed stutterer, and I had occasionally to reprimand him for his giddiness. Each lecture, however, I found acted upon him like a cathartic, and I was obliged, in my own defence, to let him blunder on in his own way.

This is easily explained. Stuttering is in fact a nervous affection, depending originally on an undue sensibility of the Nervous System, and confirmed by habit ; thus, the origin of the impediment of speech and of the tendency to nervous diarrhœa is the same.

The diarrhœa that depends on increased secretion will be noticed in speaking of the diseases of the Secreting System.

The general plan of cure suited to the diseases of accelerated nervous action would be, to re-

move the exciting cause, if possible, and to take away, or diminish, the effect of circumstances which might have a tendency to keep up the irritation when once commenced, and afterwards to bring the Nervous System into that state of healthy action which existed previously to the occurrence of disease.

On the first of these indications of cure I need not dwell.

With respect to the second, that of removing causes tending to keep up the irritation when commenced, I have to recall to recollection the remarks I have made with respect to the intimate connexion subsisting between the Nervous and Sanguineous Systems: viz. that the nerves are supplied with their nourishment by a distribution of blood-vessels to them, and that the blood-vessels are reciprocally endowed with their power of acting by the nervous branches which are sent to them. Inseparable from this is the fact “that the continued nervous irritation of an organ will cause inflammation to take place in it (which is a disease of the Sanguineous System),” whilst an undue supply of blood (when not to the extent of producing a torpifying effect by its mechanical

pressure) will increase the nervous excitement of the part.

Thus, then, blood-letting is found to be a very powerful means of tranquillizing nervous irritation, under some circumstances, and has accordingly been very beneficially employed in furious madness, apoplexy, epilepsy, convulsion, colic, &c.

The continuance, however, of nervous excitement depends frequently on a cause the very reverse of over-sanguineous supply, and is kept up by debility and weakness alone; so much so, that the irritability of an organ may, generally speaking, be stated to be in the direct proportion of its weakness.

Thus, many nervous diseases are *peculiar* to weak and debilitated persons; as females, persons lately recovered from severe illness, or who have become constitutionally enfeebled by residence in tropical climates, &c. &c. In such cases it is manifest that blood-letting would be destructive.

It has been already observed that it is by means of their nervous supply that the organs of

digestion are enabled to perform their peculiar and important functions ; the supply of nerves to these organs is very considerable, and, as has been before remarked, their sympathies are very extensive ; they are, indeed, so extensive, that any cause of irritation in the digestive organs throws the whole Nervous System into commotion, with a rapidity proportioned to the irritability of the subject :—thus, irritation from worms, or other causes, in the bowels of infants, is the most common cause of the convulsions they are so subject to, and which so often terminate fatally. Flatus in the stomach gives rise to violent palpitation of the heart, swoons, and vertigo ; other derangements of those organs occasion dimness of sight, and even blindness, continuing for weeks, and only removed, eventually, by restoring the Digestive System to its healthy state. Costiveness, also, by confining masses of excrementitious matter in those sensible organs, is a dreadful source of nervous irritation.

These facts point out another means of removing diseases of accelerated action in the Nervous System, viz. purgative medicines : their utility in many of the most violent ones (madness, epilepsy, colic, St. Vitus's dance), is considerable.

The ancients laid great stress on the employment of such means in the first of those complaints, and their "*hellebore*" was only useful on account of its purgative qualities. The Island of Anticyra in the Ægean Sea, or Archipelago, was famous for the growth of this plant, and Horace, speaking of an incurable madman, says that three voyages to Anticyra would not restore him to his senses:—

“ Ter Anticyrâ
Non sanabilis.”

Some philosophers who have gone so far as to attribute all mental operations to material causes, have derived the crimes of tyrants from causes acting on their physical constitutions. According to them, the cruelties of a Nero, a Tiberius, and a Caligula, were deducible from the state of their bowels, and Seneca would have corrected his pupil (and perhaps saved himself from the fatal bath) by a drachm of jalap, when all his *moral* lessons were unavailing.

Mr. Abernethy presents us again with this idea, in his book “On the Constitutional Treatment of Local Diseases,” and hints, that his little work may yet have the effect of saving powerful em-

pires from destruction, through the medium of the *chaise-percée*.

Whilst, however, we smile at these speculations, let us not consider them as altogether visionary. The connexion between mind and matter is too well known to render it necessary to dwell upon it; and, if any man will compare the state of his thoughts and feelings in health and in disease, he will admit the probability of his acting in a very different manner in the latter state to what he should in the former.

With respect to the third indication of cure in diseases of accelerated nervous action, viz. that of bringing the nerves again into a state of healthy action, this must be attempted by a proper system of diet, by exercise in the open air, by cold bathing, by tranquillity of mind, by change of scene. Some of these remedies act more directly on the Nervous System (as cold bathing, and the moral remedies); others (as diet and exercise), in some degree through the medium of other systems, as the Digestive and Sanguineous.

As connected with cold bathing, I must here notice the powerful effect which one modification

of that remedy possesses, of cutting short the nervous paroxysm in some diseases of this class: I mean the sudden affusion of cold water over the head and body. The effects of this proceeding are remarkable in Tetanus caused by exposure to cold and damp (as from lying in the open air all night), in furious madness, in some cases of cholic, and in apoplexy of the nervous kind. This remedy appears to act, from its immediate sedative effect on the Nervous System. The increase of healthy action and nervous energy which follows, renders it a valuable means of cure in cases of *retarded* nervous action also, as I shall have occasion to notice in considering those complaints.

With respect to the use of drugs employed with a view to their specific properties in the treatment of the diseases we have been speaking of, I fear that little is to be expected from it. We know of drugs which will exert a deleterious influence on the Nervous System; but of those supposed to exert a beneficial one the effect is very doubtful. Opium, musk, camphor, are all medicines of the class that has been called nervous; and, taking a general view of their effects in those diseases, I should say that they are injurious to

them. Bark and steel, by improving the tone of the digestive organs, have, indeed, contributed to restore the nerves to their healthy state, in many instances.

It would not suit our plan to enter more into detail respecting the nature and medical treatment of these complaints, my object being merely to induce educated persons to take a general view of the principles of medical science, by removing the veil of obscurity and mystery which has so long been thrown over them. I shall now offer a few remarks on diseases of *retarded nervous* action.

The evidences of retarded action in the diseases we have classed under this head are apparent. If we apply to the Circulating System, we see the effects of diminished nervous power in the habitual slowness of the pulse. We can trace them all to causes by which the sensorial nervous power is affected in its origin—where it lies passive from want of the due and natural stimulus being applied to rouse it, or where it is interrupted in its course to the organs it should influence. Thus, general palsy is often occasioned by mechanical pressure on the brain itself, and a

partial one, by pressure on certain parts of the Nervous System interrupting the current of the nervous power. The same disease occurs from the sedative influence of certain poisons, as lead; in old age; from a want of the stimulus of healthy nutrition, &c.

Indigestion and hypochondriasis arise, in many instances, from the sedative effect of the depressing passions (as grief). The former occurs often from the want of the healthy stimulus of the exciting feelings (as joy, love, ambition). It arises also from the absence of the stimulus of nutrition owing to a poor diet, or to the exhaustion occasioned by diseases attended with profuse discharges, either natural or curative. The most frequent form, indeed, of indigestion is that which has been termed *nervous*, produced by defective nervous energy; and this cause has been often totally overlooked in the treatment of the disease. Drugs have thus been poured into the stomach with a view of correcting diseased *secretions* on chymical principles, whilst the primary cause has been totally neglected. The late very ingenious work of Dr. James Johnston is well calculated to throw light on this part of medicine, and should be perused by every patient labouring

under indigestion. It is termed "A Treatise on Morbid Irritability of the Stomach and Bowels." This title will not appear at variance with any classification of indigestion as a *retarded* action, when our observation of irritability being a consequence of debility is recollected; no two states are in fact so different as those of healthy energy and morbid irritability.

Hypochondriasis, that dreadful nervous disease which drives so many of its victims annually to the pistol and the poisoned bowl, arises, as we have observed, from the influence of moral causes of a sedative and depressing nature, aided by an unvaried and monotonous course of life, and confinement from air and exercise; all causes preventing natural and healthy stimulus of the Nervous System. It is met with chiefly, therefore, in large commercial cities, where losses in trade frequently occur; where persons exercising mercantile pursuits are confined in gloomy chambers situated in narrow streets, and engaged in monotonous unvaried pursuits during the greater part of the day.

No one, I think, who may have visited a merchant's counting-house in Lombard Street or

other similar situations in the city of London, can wonder that hypochondriasis should dwell there. I have never seen a smile on the countenance of any of the inmates ; they seemed to me as if to them—

“ The world and its joys were all alike unknown.”

Indeed, to a person of a susceptible temperament, a visit to one of those counting-houses would be sufficient to produce a degree of hypochondriasis, unless he were fortunate enough to carry from it a cause of pleasurable excitement sufficient to counteract its effects.

To pursue our investigation of those complaints, we shall find that chlorosis, or green-sickness, is referable to a want of the stimulus adapted to the female constitution at a certain period of life, in consequence of which the whole powers of life languish. We are not here considering the expediency of moral regulations connected with this matter ; we are tracing physical facts. It is undoubted that the stimulus we speak of is designed by nature to be applied at a certain period of life in the female of every species, and that where it is withheld more or less of deranged health ensues.

Asthma, a disease *almost* peculiar to old age, and the causes of which are still involved in some obscurity, may, I think, in most cases be traced to a failure of nervous energy in the pulmonary organs and their secreting system. It is certain that debility has a powerful effect in producing its paroxysms, and that the victims to the complaint in many cases expire from an inability to free themselves of the phlegm which the passive mouths of the vessels have poured out in that which is termed *Humid Asthma*. Lastly, Melancholia, or Melancholy Madness, is almost universally produced by the sedative effect of the depressing passions on the Nervous System.

As intimately connected with the subject of retarded nervous actions, we may here mention the effect of certain poisons—vegetable, mineral, and animal.

Some of the animal poisons exert a sedative power, so strong, over the Nervous System, as to put an end to life in an incredibly short period of time after they are received into the system. They appear at once to paralyze the whole nervous action throughout the frame. Prussic acid, for instance (which has lately re-

ceived the new name of hydrocyanic acid), destroys a human being in about four minutes after a certain portion of it has been swallowed. This acid is of animal production, although it exists in some vegetables.

Most of the vegetable poisons, called narcotics, produce the same effect after a longer period: opium, henbane, belladonna, hemlock, nightshade, &c., are of this class.

If, however, we are to believe the accounts given us of the boan-upas, or poison-tree, of the Island of Java, its deadly effects are manifested in as short a period as those of any of the animal poisons. I have read an account of an execution performed on some women belonging to one of the native princes of the island, who were suspected of infidelity. They were twenty in number, and were drawn up in a line; they were then in succession inoculated by a surgeon with the poison of the Upas Tree, and it appears that the first female in the line was already a corpse before the last had received the inoculation. If the account of this execution be a true one, the poison made use of was probably of animal origin; for I am of opinion, from analogy, that no

vegetable poison would have been so quick in its effects; indeed, I believe recent discoveries have left no doubt that the tales told respecting the Upas Tree were totally unfounded. There is reason to suppose it was a contrivance adopted by the Dutch to deter natives of other nations, by such reports, from seeking to make settlements in Java.

Other animal poisons are equally quick in their effects as the Prussic. The bites of certain serpents (as the cobra di capello, &c.), cause death in a few minutes after they are inflicted.

Some animal poisons exert their injurious effects chiefly on the Circulating System; these we shall hereafter consider. I am, however, of opinion, that the influence of *all* poisons is of a sedative nature, and that their effects may be classed with propriety amongst diseases of that head.

The method of cure adopted in India in cases of the bites of those reptiles, the effect of which is not quite so sudden as of those I have mentioned, corroborates the idea I entertain of their action. It consists in the administration of remedies of

the most stimulant description—volatile salts, peppers, &c. A celebrated antidote used in that country in those cases is a compound of the most stimulating ingredients.

The principles which should regulate the means of cure in the diseases of retarded nervous action, may be inferred from the observations I have made as to their nature and origin, as well as from those I have offered as to accelerated actions.

It is obvious that in some diseases of this class the cause is one which it is not in the power of art to remove: viz. where the sensorial nervous power is affected in its origin, although we may succeed in palliating the complaint by removing adventitious causes, which would have the effect of adding to and exasperating the symptoms of it. Thus, although a complete cure of palsy is seldom effected, yet by removing the accumulations which take place in the bowels owing to the torpor of the Nervous System, we take away a cause which would very powerfully tend to increase the distressing consequences of the disease.

Various remedies and means of the stimulant

class have been resorted to with a view of exciting the torpid nervous power in some diseases of this class (as electricity, galvanism, the natural warm springs used as baths, douches, &c.) *Generally* speaking, I should say that they have proved unsuccessful.

The most effectual stimuli have been found to be those applied through the medium of the other systems (the Sanguineous and Digestive ones), and have consisted of remedies calculated, by restoring the tone and powers of the stomach, and by imparting the oxygenous or vital principle to the blood, to afford a natural and healthy excitement to the nerves.

Moral means have also tended to produce the same effect in an eminent degree (as the joyous and exciting passions). Change of air and scene have likewise the most beneficial influence. The effects of the latter, when the stimulus of hope is added to that of variety and change of place and habits, have been often found almost miraculous, not only in suspending the symptoms of diseases purely nervous, but even of those in which absolute organic changes of structure had already taken place. An instance of the latter

description I witnessed some years back. A young gentleman, an officer of the 78th Regiment, was attacked, when quartered in Ireland, by pulmonary consumption, the consequence of neglected inflammation of the lungs. The disease had made frightful progress, and he had been for some weeks confined to his bed with harassing cough, expectoration of purulent matter, hectic fever, &c., when it was proposed to his friends, as a last resource, to send him to the Island of Madeira. He was told that there was every prospect of his recovery by his removal to that delightful climate. Buoyed up with hope, he felt a sudden renovation of strength, and he embarked in the month of September.

During two months he was tossed about the Atlantic by adverse winds, during which time he was exposed to wet and cold from the leaky state of his cabin, and was eventually obliged to return to England to wait for more settled weather. Instead of finding injury from the fatigues of his voyage, he experienced a considerable improvement in his health: his purulent expectoration had ceased altogether; his appetite had returned; and he found himself strong enough to undertake an overland journey to the south of France in the

end of November. During this journey he was also subjected to much fatigue and exposure; was obliged to rise at four o'clock in the morning, and to travel until a late hour in the evening. He took up his residence at Aix, in Provence, where I then happened to reside, and he consulted me shortly after his arrival. He stated to me the nature of his original complaint, telling me, however, with a joyous air, that he believed himself quite cured, as he had had no return of his distressing symptoms, notwithstanding his fatigues, &c., which he seemed to take a pleasure in detailing. I was careful not to dissipate so sweet an illusion, which, however, I was well aware, from former experience, would be but a fleeting one. For a week or two after his arrival, the poor young man indulged in his dream of recovered health; but the return of his bad symptoms soon after plunged him into despair, rendered ten-fold more acute by his previously high-raised hopes; the airy fabric fell to the ground, and I witnessed his last struggle (which was a dreadfully painful one), early in the spring.

Having thus taken a general view of the diseases of the Nervous System, it remains to make a few observations respecting the structural

changes which are caused by them; and Pathology has thrown but very little light on this part of the subject.

The changes in healthy structure which are the causes or consequence of nervous diseases, are too minute, in most cases which have ended fatally, to be detected by the anatomist's knife.

Thus, in many cases of madness which have lasted for years, no perceivable change of structure is discovered in the brain on examination after death. The same observation will mostly apply to the other diseases purely of this class, as Locked-jaw or Tetanus, Hydrophobia, Convulsion, unless they have induced inflammation, or some other disease of the vascular organs connected with the Nervous System, in which case the morbid appearances belong to the Sanguineous rather than to the Nervous System.

In cases of partial palsy which have lasted a long time, a wasted state of the nerves which supply the diseased part is generally found to exist. This applies also to cases of nervous blindness, deafness, &c., of long continuance.

2. OF DISEASED ACTION, CHIEFLY MANIFESTED IN THE SANGUINEOUS SYSTEM.

Under this head I shall include all inflammations of organs: Fevers, whether arising from contagion or other causes, accompanied with eruptions or otherwise; active Hemorrhages, Dysentery and Catarrh; and Florid Phthisis or Consumption. The above we shall consider as accelerated actions, whilst, as retarded ones, we shall have those that follow:—Agues;* three of the diseases called by Cullen *Impetigines*, or Depraved Habits, viz. Syphilis, Scurvy, and Scrofula or King's Evil, which latter will include Tubercular Phthisis; and, lastly, Varix, or Varicose Veins.

I have already taken notice of the theory which went to consider all acute disease as retarded action in its origin, the accelerated action which followed being esteemed a curative effort of nature to remove the morbid state.

* I shall hereafter state my reasons for including those three diseases in the class of retarded vascular actions.

The justness of this theory as applies to one febrile disease does not admit of a doubt, viz. Ague or Intermittent Fever—here the symptoms of retarded action constitute the principal feature of the complaint. The shivering coldness, slowness of pulse, pallor of countenance, &c., are all unequivocal proofs of the existence of that state, and the febrile or hot stage which succeeds, would seem obviously an effort of nature to restore the balance of the circulation to a state of health.

Physicians, taking this disease as the purest exemplification of the nature and constitution of all fevers, assert, that the same process takes place in every disease of that nature, and that they only differ from their intermittent prototype in this, that the state of collapse, or retarded action, is in those diseases termed “*Continued Fevers*,” of very short duration and obscurely marked, whilst that of acceleration is long and distinct.

I have, indeed, myself no doubt, that the causes originating contagious febrile complaints, are universally of a sedative nature, and in some respects similar, in their action on the system, to

those of poisons. The usual effects by which such complaints first manifest themselves are chilliness, nausea, and languor (often even by vomiting); and it is not until those symptoms have been present for some time, that the increased action manifested by headache, quick pulse, hot skin, &c., takes place.

These observations apply in a particular manner to the eruptive fevers (as Small Pox, Measles, &c.) The eruption, in those cases, may seem to indicate the successful effort of nature to throw off the disease from the vital organs.

Notwithstanding those views, I have already stated that I should consider fevers generally as examples of accelerated action, as that state really constitutes the disease as it presents itself to us, and the fatal termination, in those cases when it does occur, is, moreover, in general, owing to the intensity of the action.

I have observed on the injurious effects that have resulted from our permitting *theories* to influence our practice in medicine, how specious soever they might seem; and an exemplification (to pick one from ten thousand), may be given in

the former mode of treating the Small Pox. The theory of the eruption being the successful effort of nature to throw the disease to the surface, led to the horrid practice of keeping the wretched patients in hot chambers, and subjecting them to a stimulating regimen, with a view of furthering that desirable event ; the consequences of which plan were deplorable. Death ensued in one-half of the cases, and in many others blindness, from inflammation of the eyes ; whilst, in those that escaped, a foundation was laid for future inflammation and disease of the vital organs, the lungs, intestines, &c.

Fevers originate from other causes than contagion. The application of cold and damp, great anxiety of mind, violent exercise in hot weather, derangement of the function of the liver, give rise to those complaints. Those causes all operate by throwing the mass of the blood upon the internal organs, which rouses an effort of nature, as we have before remarked, to restore the circulation to the surface of the body, and to preserve that balance necessary to the health of the system.

Contagion appears to produce an accumula-

tion of blood on the vital organs on another principle; for, if we suppose the force and activity of the Nervous and Sanguineous Systems to be weakened by the sedative cause (Contagion), it will follow that the heart will not possess force sufficient to push the blood to the extremities of the circulating vessels in the skin, and thus it will be accumulated in the centre of the system, until the effort of nature takes place to restore the balance, and perhaps also to expel the morbid principle. Besides those origins of Fever, there is yet another, viz. inflammation of some organ with which the constitution at large sympathizes. Thus, inflammation of the lungs, liver, stomach, &c., are all accompanied by fever, which indeed takes place to a greater or lesser degree in all inflammations whatever: its violence will be in proportion to that of the inflammation, to the importance of the organ to life, and to the irritability of the subject of it.

Here it will be appropriate to offer some remarks as to the nature of Inflammation, that great morbid change with which such a numerous class of Disease is connected, either directly or remotely.

When, by any cause, an organ, or part of the body, is stimulated beyond that degree which its constitution is fitted to sustain, the first effect of the nervous irritation excited in the part, is, that an increased action of its blood-vessels takes place ; hence, the affected texture swells, throbs, and grows hotter than usual ; the impetus of the blood forces that fluid into vessels which did not admit its red particles to enter in the healthy state, their diameter becomes enlarged, and the part grows redder than before.

Now, the termination of this state is threefold ; for Nature is disposed to make three *successive* efforts to restore the healthy balance.

First:—The action having continued some time, the exciting cause of Inflammation having been withdrawn, and perhaps some judicious measures having been adopted to check its force, the impetus of the blood to the part becomes less, the vessels are allowed to contract, and the action gradually subsides into the healthy one ; leaving the part more or less in a state of debility, which (as has been before observed) follows increased action of every kind.

This termination of Inflammation is called *Resolution*.

Secondly, the exciting cause not having perhaps been withdrawn, or the impression which it has made being too powerful to admit of the inflammation subsiding in the first way, Nature, after the action has continued a certain time, causes the vessels of the part to take on a *secreting* action, by which a quantity of fluid of a peculiar kind is separated from the blood by their extremities. The blood being thus consumed in furnishing this new secretion (which is termed *Pus* or *Purulent Matter*), its local impetus or force is diminished, and it ceases to produce the effects we have before mentioned; the throbbing, heat, redness, and pain of the part, subside; it becomes soft, white, and inelastic; and the fluid it contains either makes its way to the surface, and is discharged by an ulcerated opening which Nature uniformly effects in those cases, if uninterfered with, or escapes by an aperture formed by art.

It is to be remarked that the purulent matter in those cases is always contained in a bag, which is formed by a natural process, where the struc-

ture of the part does not oppose an insurmountable obstacle to that operation; by this means the matter is circumscribed and prevented diffusing itself into the adjoining parts. This termination of inflammation is termed *Suppuration*.

It is obvious, from what I have said, that when inflammation terminates by *suppuration*, some degree of structural change in the parts affected takes place. Nature, however, remedies this afterwards, by removing the bag which contained the matter, by the process of *absorption* (a process I shall notice in describing the diseases of the Secreting System).

Where the previous inflammation has been violent, and the suppuration extensive, a degree of *induration*, or hardness of the part, continues for the rest of life.

Thirdly, when the cause producing the inflammation has been an extremely violent one, the increased action is so great, that the parts, incapable of supporting it, die altogether, after it has continued some time. This termination is called *Gangrene*, or *Mortification*.

Nature afterwards causes the dead part to separate from the living, in the form of what is called a "*Slough*;" and, if this event does not occur in a part immediately essential to life, and is of limited extent, the vacuum is filled up by another natural process, and its healthy actions are again restored.

It is to be observed that the exciting cause may be so violent as to destroy the part at once, so that the Inflammatory process does not *sensibly* occur (as in Burns with fire).

Having thus given a brief sketch of Inflammation, I shall return to the consideration of Increased or Accelerated Actions of the Sanguineous System in general.

With respect to the general principles of cure in those complaints, they are, to lessen the accelerated action, and to restore the system to the same state as before the occurrence of the malady.

The first step, therefore, will be to remove the cause of increased action.—If this should be the inflamed state of some part or organ (as the essence of inflammation, as before mentioned, is the unna-

tural supply of blood to some particular part,) blood-letting from the neighbourhood of the part, or from the system at large, affords the best means of accomplishing this end.

If the inflamed part is an internal organ, blisters applied to the external parts, covering or adjoining to the organ, are another means: they act on the principle of drawing the supply of blood and the increased action from the original seat of disease to the part newly inflamed by art. On this principle, the native doctors of India apply red-hot irons to the external parts of the belly in cases of inflammation of the internal organs, (as the spleen and liver,) with eminent success. It appears that they practise local blood-letting in those cases, also, in a singular manner. They thrust a long awl-shaped instrument into the diseased and enlarged organ, and take away a quantity of blood by suction; and it is said that this practice is also extremely successful. Indeed, the bold and decided practice resorted to by those persons, and the almost miraculous good effects that ensue from it, are well known in India: they have been mentioned to me by a military medical man who resided in India for many years.

The application of the *Actual Cautery*, as the use of red-hot irons in the way I have mentioned is termed, was formerly very extensively used in the practice of Surgery, and it appears to have been given up only on account of the terror it inspires. Under judicious management it would no doubt be found a very powerful means of cure. The good effects it produces in the Veterinary art, in restoring the tone and strength of sprained and weakened joints, are well known. Since our increased intercourse with the Continent, one modification of the Actual Cautery has come into pretty general use in this country,—I mean, the application of *moxa*.

Cones of this lanuginous substance are piled upon the part designed to be subjected to the action of fire; and, the top of the cone being ignited, it burns down slowly to the part.—This practice has been attended with good effects in many instances.

Where the cause of febrile action is other than the inflamed state of an organ, (as in continued fevers from cold, over-exertion, &c.) still the abstraction of blood is a valuable remedy.—It relieves the oppressed circulation, and enables Nature

to remove the febrile excitement by some of the secretions, (as perspiration, urine, that from the bowels, &c.) it being a fact well known to Physicians, that where the febrile heat and action exceed a certain standard, no secretions will take place.

In fevers arising from contagion, the original cause being, as I have observed, of a sedative or depressing nature, and showing its influence throughout the whole course of the disease, blood-letting is to be used with caution. In those diseases, the fatal event is, in many instances, caused by the system falling into a state indicative of *Collapse*, or the lowest state of *Retarded Action*, known by the term “*Typhus*,” or *Putrid Fever*. This state I regard as the pure effect of the original poisonous nature of the contagious cause, which becomes at length victorious over the effort which Nature has made to overcome it.

When this state occurs, remedies, known by the term of stimulants, tonics, and antiseptics, are had recourse to, the principal of which are wine, opium, bark, and the mineral acids.

As a means of diminishing the increased action

in Fevers, whether arising from contagion or other general causes, nothing exceeds the effect of cold water poured over the surface of the body.

I regret to say that this practice has of late fallen into much disuse, and I have no hesitation in attributing this to the arts of the ignorant and interested nostrum-mongers, whose practices I have glanced at in the Introduction. Cold water is a remedy that is not *chargeable*; it is also a powerful and a *quick* means of curing disease;—two circumstances sufficient to excite a *hydrophobia*, or dread of water, amongst the vile *mercenaries* I am speaking of. Accordingly, they have left no means untried to bring this salutary practice into disuse, the chief of which has been to bring against it that great British *bugbear*, the fear of *catching cold*, which is so prevalent a prejudice here, and one so justly ridiculed abroad. This prejudice had its share in producing the horrid practice in smallpox which I have alluded to, and also the old plan of smothering lying-in women,—two proceedings which have hitherto caused more destruction to the human race than all the wars and pestilences that have ever occurred in the world.

Be it known, that when the heat of the body is increased to a certain pitch, and the Circulating System acting in an accelerated state, as in Fevers, persons *cannot catch cold*, in the usual meaning of that term, and that (as may be inferred from the previous observations which I have offered when speaking of blood-letting), the diminishing this action and temperature is essential to producing those salutary secretions on which the cure depends.

With respect to active-Hemorrhages, some of those occur naturally in young florid subjects about the period of puberty (as bleeding from the nose), and cannot be considered in the light of a disease: they indicate the natural Plethora incidental to that period of life, which is consumed at length by growth, and by the exercise of the generative function.

Some of those hemorrhages, however, occur in parts essential to life (as in the lungs, stomach, &c.), and their after-consequences are likely to be injurious.

When a hemorrhage of this kind is moderate in its quantity, it need not be opposed, as it is

not likely to be injurious immediately, and it will spontaneously cease by a shrinking of the vessels.

If it should occur in an internal organ, and be of frequent occurrence, its removal must be attempted, by taking blood from the system by venesection, previously to the expected occurrence of the hemorrhage, by avoiding severe exercise or other exciting causes, and by a suitable regulation of diet. Those *latter* means tend to oppose plethora, which, I have remarked, is to be considered as the cause of the disease. Sometimes active hemorrhages take place from a weakness of a particular organ, independent of plethora. In this case, the cure will consist in avoiding such causes as tend to excite the debilitated organ, and in taking measures to restore its strength and tone, as well as that of the system at large. In effecting the latter object, however, care should be taken not to produce plethora, which effect might render nugatory all previous efforts.

It will not be consistent with my plan, to enter more into detail respecting these complaints; I shall therefore only observe, that Florid Consump-

tion frequently follows as a consequence of hemorrhage from the lungs.

The subject of Pulmonary Consumption itself being too extensive a one to form a part of this treatise, I shall only remark, that debility of the vessels of the lungs, united to a florid constitution (or plethora), is the cause of that description of it connected with the present subject, and that its cure is conducted on the principles I have laid down in speaking of Inflammation and Hemorrhage.

That description of Pulmonary Consumption which is supposed to be connected with Scrofula, or King's Evil, I shall briefly notice in speaking of that disease.

With respect to Dysentery and Catarrh, those diseases have their origin, like other fevers, either in the application of causes suppressing perspiration, or in contagion. Both diseases consist in an inflammatory action of the vessels of the mucous lining surfaces of the parts affected by them. In one case (Catarrh), these are the throat, the upper part of the pulmonary pas-

sages, and the nostrils ; in the other (Dysentery), the lower intestines. To the very irritable constitution of the latter parts, and to the peculiar action (called Vermicular Motion) which they are always performing, are owing the *Spasms*, which form such a remarkable feature in the symptoms of Dysentery, and which render its treatment so difficult.

That species of Dysentery arising from contagion is even much more dangerous than the other ; for the putrid action derived from its contagious source supervenes very quickly on the inflammatory one, and renders, in many cases, the most judicious means of cure unavailing. Happily, this species of the disease is but of rare occurrence in these countries, generally speaking (although Ireland furnishes an exception to this remark). Being chiefly found in the warm and tropical climates, the best opportunities of forming an accurate knowledge of this terrible disease are to be met with in the Army, where soldiers, from their peculiar pursuits, are exposed to both the causes that ordinarily produce it ; and, accordingly, the best Treatises we have on the subject are those written by Army Physicians and Surgeons.

The plan of cure, generally adopted in civil life, consists in endeavouring to remove the inflammatory action, to mitigate the spasms, to restore the balance of the circulation to the skin, and to strengthen the debilitated organs. The means employed are, blood-letting, combinations of emetic and purgative medicines, opiates and local remedies suited to the exigencies of the case, external warmth, astringents, and tonics.

All these, however, fail in many cases ; and I believe some lives might be saved, were the energetic practice pursued in the Army in bad cases, resorted to, viz. that of putting the system rapidly under the influence of mercury, by repeated doses of calomel, united with an opiate medicine. By this mode of practice I have seen many patients snatched from the grave ; for no sooner did the mercurial action commence, than the dysenteric one ceased, as if by magic.

Discrimination is indeed required in judging of the cases where this mode of practice would be advisable. Where the disease gave a prospect of being removed by more gentle means, I should not counsel its adoption.

Whilst speaking of the wonderful effects of mercury in removing internal inflammations, I may notice its powerful effects, when timely-resorted to, in curing some of the consequences of inflammatory action : for example, the diseased state of some important internal organs (the liver, the spleen, &c.), which ensues so frequently to inflammation of them in warm and tropical climates, and the symptoms of which state are generally so complicated and obscure. I shall state a very striking case, which will exemplify the above observation:—

When I was residing at Aix, in Provence, in 1821, an officer of the 2d regiment of foot, on sick leave of absence, arrived there, and shortly afterwards consulted me respecting his state of health. His medical advisers in England had pronounced his complaint to be *Phthisis Pulmonalis*, or Pulmonary Consumption. He, however, had no purulent expectoration ; and the symptoms of his disease more resembled Asthma from structural disease of the lungs, than any other complaint. He laboured under continual *dyspnœa*, or difficulty of breathing, and had besides exasperated paroxysms of that affection

frequently during the night, particularly whenever he had committed any excess in diet.

The history which he gave me of his illness was as follows:—That a few days previously to the embarkation of his regiment from Demerara, he had an attack of (what was pronounced to be) Inflammation of the Lungs; that he embarked whilst labouring under this complaint; that he never had been bled for the original disease (indeed, he had never been bled in his life when I first saw him); that he had suffered dreadfully during his voyage; had arrived in England nearly in the state in which he then was; and had very soon afterwards set out for the South of France, by the advice of the Physicians whom he had consulted. He stated to me, that he had had one very violent attack of illness at Paris, where he had stopped for a few days on his way to the South; that attack, he said, resembled one of Apoplexy; it occurred whilst he was walking in the Gardens of the Thuilleries, where he was instantly, after a violent fit of difficult breathing, deprived of all sensation, and dropped down, apparently dead,—in which state of insensibility he remained for nearly an hour.

My first visit to this gentleman was whilst he was labouring under one of his violent paroxysms. It was really *frightful* to behold his state. He appeared on the verge of instant suffocation. He was relieved, for the time, by taking some blood from the arm. Shortly afterwards, he came to live with me, and I had soon occasion to observe, that dyspepsia and derangement of the liver had a very considerable share in his complaint. My attention was first called to this fact by the intolerable fœtor of his evacuations by stool, which (as his illness obliged him often to use the *chaise percée*) was at those times perceivable through the whole house. On examining his stools, I found that they were as black as ink, slimy, and resembling the mud of the streets, more than any other matter, in appearance. I recommended his making a cautious trial of mercury; and he made application for a further leave of absence, to enable him to follow my advice. This, however, he was refused, as he had already had a considerable leave, and he was informed that, if the state of his health was such as to require the long period of leave he solicited, he must retire upon half-pay.

This he resolved not to do, and he returned

to England. I shook hands with him on parting, as with a friend whom I should never see again, and I believe such was the poor fellow's own opinion.

I returned home myself in 1822, and in 1823 to my astonishment I met poor M. in the streets of Dublin (where his regiment was then quartered), apparently in the most vigorous state of health. When I had before parted from him in Provence, he was reduced to a skeleton—could not walk twenty paces without being obliged to sit down, out of breath, and covered with perspiration, and his complexion had the leaden hue of a corpse. He was *now* fat, florid, and strong. I begged him to explain to me the particulars of this complete resurrection. He then informed me that his medical advisers had dissuaded him from using mercury, and that, conceiving his case to be hopeless, he had abandoned himself altogether to his fate.

At this time he *luckily* (as the event proved), contracted a Venereal complaint, and his medical friends were reluctantly obliged to give him mercury, the result of which they dreaded would exasperate his pulmonary disease, if not prove altogether fatal.

My friend, however, found that with every dose of mercury he made a step towards recovery, and when he had completed his course, all his complaints had *vanished*, and he rapidly recovered his strength, flesh, and spirits. He is now with his regiment in the East Indies, and I hope, should it be his fate to meet his old complaint there, he will profit by his experience in the cure of it.

Here, in fact, was a disease of the liver, of which all the prominent symptoms were probably purely sympathetic. I should remark that there was no apparent enlargement of the liver, which would account for the pulmonary symptoms on the principle of mechanical pressure; but it is certainly possible that the adjoining parts of the lungs might have in some degree participated in the original inflammation of the liver. However that might be, his disease was totally removed by the mercurial course.

That species of *catarrh* which arises from *contagion*, is not of very frequent occurrence; but it has appeared at different times in this country, at intervals of several years, and is known by the Italian name of *Influenza*.

I have perhaps dwelt on these subjects longer than is suited to the plan of this work, and I shall therefore now pass to the consideration of diseases of *Retarded* Action of the Sanguineous System, only first observing, in reference to the last remark I have made respecting *calomel* in the cure of *dysentery*—that the extraordinary power which the mercurial action, when excited, has in suddenly arresting inflammatory actions of internal parts (and particularly of those called mucous and serous surfaces), is one of the most wonderful facts in Therapeutics (or the treatment of disease), and I suppose can only be explained on the principle of the one action being incompatible with the other ; an observation which is found even in the works of Hippocrates as applied to diseased actions.

OF RETARDED ACTIONS OF THE SANGUINEOUS SYSTEM.

I have already spoken of the sedative effects of *poisons* on the Nervous and (through its influence), on the Vascular System.

The causes of some diseases of Retarded Ac-

tion of the Sanguineous System, are accordingly referable to the poisonous qualities of the contagions they arise from. Amongst these *marsh miasms*, or the exhalations arising from putrefying animal and vegetable substances in low marshy grounds, acted on by the sun's rays in spring and autumn, are reckoned the contagion which produces *Agues* or *Intermitting Fevers*. In some marshy countries these diseases are endemical at the seasons above-mentioned.

Holland is a country which, from its peculiar position, is extremely subject to these diseases. The remarkable pestilential intermittent called the *Walcheren Fever*, which attended our troops in their expedition to that island in 1810, will be ever remembered.

In countries where moisture is united with heat, as in some parts of the Coast of Africa, of America, and the West and East Indies, &c., the intermittent and remittent fevers which take place are of the most fatal character.

I have before stated, in speaking of Agues, that the *Shivering or Cold Fit* is always, after a certain period, succeeded by a *hot one*, and that this

latter terminates by a *sweating stage*, which carries off the complaint for the time.

The cure in these diseases proceeds on the principle of the complaint consisting in a retarded action. Hence, means are resorted to to rouse the powers of the constitution,—viz. stimulant remedies, which will, as it is termed, “*cut short*” the cold fit, and bring on that of *Accelerated Action*. Afterwards, by giving tonic and strengthening remedies, the system will be enabled to resist the poisonous or debilitating effect of the original cause of disease.

These diseases are, however, frequently *complicated* with others, and then a mode of practice less simple than the above, and suited to the nature of the complication, must be resorted to.

With respect to the three diseases of the order *Impetigines* or *Bad Habits*, which I have included in this division of the subject, viz. Syphilis (or venereal disease), Scrofula, and Scurvy:—The first arises from a specific poison; all its symptoms on the general constitution evince a *retarded action*, and a diminution of the vital energy; the hair falls off, the body emaciates, the

countenance becomes of a dull *leaden* colour, and the appetite fails.

Whatever evidences there may occasionally appear to be of *Accelerated Action*, are owing to efforts which nature *then* makes to throw off the poisonous *principle* which oppresses her, and which effort excites inflammation of a local nature, with which the constitution for a time *sympathises*. Inflammation of the Throat, Eruptions, Nodes of the Bones, &c., I regard as of this nature.

The inflammatory symptoms occurring in the parts to which the poison is *first* applied, have nothing to do with our consideration of the disease as manifested in the general Vascular System.

The method of cure which is adopted in this horrid disease, is exactly conformable to the view I take of its nature as a retarded action. It consists in the administration of one of the most powerful stimulants in nature (mercury); and I believe its *curative* effects to be *entirely* referable to its *exciting* properties.

The first effects of mercury are to produce increase of pulse, headache, flushed face, furred tongue, and all the symptoms of increased action. After these effects have continued for a time, there is, of course, a *collapse* (according to the great principle I have taken notice of in the beginning of this treatise), proportionate to the previous excitement; and here consists the great *secret* in the *treatment* of this disease, which has been so long unattended to or unobserved: *it is to keep up the accelerated action for a certain time to that degree ONLY which will prevent the subsequent occurrence of collapse.*

If we suffer this latter effect to take place at an early period, either by a previous injudicious use of mercury, or by neglecting to take such measures as will prevent the violent stimulant effect of the remedy, the progress of cure is not only retarded, but the constitution is thrown into a state more favourable for the operation of the poisonous principle, and the symptoms of the disease are aggravated, frequently *tenfold*.

The late remarkable observations on this disease (which have already filled folios) have fully

established the above facts ; so much so, that the most dreadful symptoms of the disease are *now* affirmed, in some of the said folios, to be owing almost entirely to mercury, and to have little connexion with the disease ; a remark in which the wise authors are as much mistaken as their predecessors were, who, regarding those symptoms as *entirely* venereal ones, poured in their panacea in *double* quantity, by which means many lives and many *noses* were daily lost.

In a word, the means by which the too-stimulant effect of the remedy (mercury, which I regard as the only known one in this complaint) may be prevented, consist in reducing the previous plethora (or, as Hippocrates calls it, *ευσταξίς*) of the system in young and vigorous subjects, in whom the disease most ordinarily occurs, by previous measures of depletion (as blood-letting, the warm bath), and that kind of regimen which will nourish without inflaming the system ; afterwards, in using the remedy with a view to the effect I have mentioned as the desirable one to be obtained.

Had this view of the subject been taken long since, we should have been spared the multipli-

city of works on Pseudo-Syphilis, Mercurial Symptoms, Syphilitico-Mercurial Diseases, Venereal Complaints—of I don't know how many origins, all distinguished by a separate set of symptoms; cures of the Venereal Disease by nitric acid, sarsaparella, &c. &c. &c., all of which have only tended to obscure the subject they affected to elucidate, and to put money in the pockets of the authors.

It is worthy of observation, that all the remedies supposed to effect a cure in Syphilis have been such as were calculated to produce an exciting or stimulant effect on the constitution (nitric acid, and other remedies containing oxygen, for example,—opium, &c.)

It may also be remarked, with respect to this disease, that it was an opinion formerly entertained, that a man labouring under the constitutional form of the disease only, could communicate the complaint to a female with whom he cohabited without his having himself any local disease of the Genital organs; that this opinion was afterwards supposed to be an erroneous one; but that late observations have fully confirmed its justness.—I have myself the strongest reasons for

believing that a man may communicate this complaint to a woman with whom he is in the habit of constant intercourse, even without his having any *marked* constitutional symptoms of the disease present, if it should exist in a latent form in his habit; that the health of the female will in those cases suffer, and that she will probably exhibit unequivocal symptoms of the presence of the disease; that the offspring will offer similar appearances, if they should not (as is generally the case under those circumstances) be dead-born.

All these effects were extremely frequent during the progress of the Non-Mercurial *Mania*, when it was attempted to remove the complaint, either by some of the remedies I have mentioned, or by Sudorifics and Diet-drinks; and the ill-fated victims of those experiments, supposing themselves free from disease, contracted matrimony within a certain period after their imagined cure.

It has occurred to me to see both husband and wife obliged to undergo a regular mercurial process, after their hopes had been disappointed by two or three dead-births in succession, and that the health of the female had suffered for a long

time under the most distressing symptoms, which at length became too unequivocal to be mistaken. I have seen, in those cases, the pursuance of a judicious mercurial course followed by the renovated health of the female and by the subsequent birth of living and healthy children.

The female is not so liable to communicate disease existing in a constitutional form to the male with whom she cohabits, for *obvious* reasons; neither are the opportunities of observing this so frequent when it does occur, as in the former case.—One example, however, did occur to my observation, some years back, where a very young man so far forgot all moral and social feeling as to connect himself in marriage with a female whose former life had been one of abandonment, and some time afterwards he laboured under diseases which I had no doubt could be traced to the origin I have mentioned.

In thus dwelling on this subject, I should not wish to be thought an alarmist, or to excite groundless terrors in the minds of susceptible persons; but the occurrence of such things is not unfrequent, particularly in large cities. The

symptoms are strongly marked when they do occur. I have been a witness to such occurrences, and I therefore think it right to notice them.

With respect to Scrofula, or King's Evil (which is the effect of a peculiar taint in the constitution, derived from the parents) the nature and origin of the complaint are involved in much obscurity. It occurs chiefly in persons of a soft flabby fibre; its symptoms are characterized by the extreme indolence of their progress; and the most approved methods of cure are those which proceed on the principle of giving tone to the muscular fibre, and of invigorating the actions of the vital organs (by cold-bathing, bark, preparations of iron, &c.)

Many of the symptoms of Scrofula are exhibited in the external glandular parts. May not these be *abortive* efforts of nature to remove the disease from the system by those organs?

The Tubercles which occur in the lungs, and which give rise to that most fatal form of Pulmonary Consumption, the "*Tubercular*," have always been considered as of *Scrofulous* origin. They appear to me to consist of the glandular apparatus of the lungs developed and enlarged by the local

irritation of the scrofulous principle. The consideration of the symptoms and of the mode of cure adopted in Scrofula, induce me to place it in this division of diseases.

Scurvy is much more unequivocally a disease of Retarded Action. It arises from all the causes producing debility in the vital actions,—deficiency of nourishment; want of a due supply of oxygen (that great stimulant property), by a deprivation of the alimentary substances which were chiefly destined to supply us with it, (*viz.* fresh vegetables); from dejection of mind, and want of exercise.

Its cure is conducted, accordingly, on the principle of strengthening and exciting the Sanguineous Action. The means are—Nourishment, vegetables, wine, gaiety and exercise, frictions of the body, and warm clothing.

The perusal of the voyages of some of our great circumnavigators—(Anson's voyage, for example) will afford instances of the dreadful extent to which all the vital actions are debilitated in advanced stages of this disease. It was no uncommon thing for the men to drop down dead on making a slight exertion, from the consumption

of vital power required in the performance of it, and wounds healed up for years broke out afresh; cicatrized parts, it is well known, possessing less vitality than the original structure of the frame.

Varix, or Varicose Veins, either occur generally or partially. The former is seen to take place in very old people, in whom, the vital actions and the muscular ones having become much weakened, the blood no longer receives the "*impetus*" necessary to carry on the circulation *effectively*, and it therefore accumulates in the veins, both because (as I have before shown) those vessels are in themselves *passive* organs, easily distensible, and because, in the major part of that system, the blood moves in a direction contrary to the force of gravity. It is, accordingly, in the lower extremities, where the influence of the arterial action is least felt, and where the power of gravity chiefly preponderates, that the largest Varicose Veins occur. They, however, occur also in parts where the force of gravity is more favourable to the venous current, as in the Brain, Neck, and Throat. I have reason, also, to believe that a varicose state of the veins of the *Colon* (or greater portion of the large intestine), very often occurs in debilitated per-

sons, and that it is a very frequent cause, by the occasional irritation it produces, of a very distressing description of Diarrhœa, and consequent Dyspepsia.

The best means of relief in those cases I have found to consist in the application of a broad bandage applied round the lower part of the belly, so as to support the Colon and its vessels, and worn until they have recovered their tone and strength. By this means I succeeded, in one case, in removing an habitual Diarrhœa and Dyspepsia, which had existed for a very long period, after every means of medicine, diet, and clothing, had been used in vain. The bandage should be so secured, as not to slip up from the position it should occupy below and round the lower part of the Colon.

The varicose state of the veins of the Rectum, known by the name of Hœmorrhoids, or Piles, occasionally becomes a most dreadful cause of irritation and even of serious disease. They frequently occasion Dyspepsia of the most inveterate kind ;—headache, flatulence of the bowels, sympathetic muscular pains, and sense of weariness extending throughout the frame, with a long

train of nervous symptoms. Such a serious state of this disease, however, never occurs, except where the complaint has been induced by causes producing a general debility and injury of constitution—as debauchery, the abuse of mercury, residence in tropical climates, &c. ; and its removal, therefore, will depend upon the success of the means used for the improvement of the general health. The disease I last noticed (Varix of the Veins of the Colon), is frequently united with such a state of Hæmorrhoids as I have described. The term “Internal Piles,” is generally applied to the more severe forms of the complaint, characterized by some or all of the symptoms I have mentioned. The simpler state of the disease, termed “External, or Outward Piles,” is only a local complaint, and frequently occurs in robust persons, and those subject to costiveness. We shall again notice this disease in treating of Diseased Action in the Digestive System.

With respect to the Varix, or Turgescence, of the veins of the Brain, which I have above mentioned, it is the origin of the *Venous Apoplexy* of old people, when the brain becomes oppressed by the column of blood distending those vessels,

and which becomes unusually increased by some occasional cause: for example, long-continued costiveness.

The veins of the throat and palate, also, become sometimes enormously enlarged in old people, particularly in those who have addicted themselves to the use of spirituous liquors. I have seen them so enlarged, as to project into the mouth like polypi, and I witnessed recently the fatal termination of a case of this kind, from the bursting of one of the distended veins, the hæmorrhage from which could not be restrained. This occurred in an old female, who had for years been addicted to the horrid habit of daily intoxication.

Whilst alluding to one ill effect connected with habits of intoxication, I may notice (though not belonging to the division of my subject), the extraordinary fact of the *spontaneous combustion* of the body, which has terminated the lives of some old and inveterate drunkards.

It appears, from proofs that are undeniable, that, in old persons, the whole fibre of the body, from the constant practice of spirit-drinking, be-

comes so charged with inflammable matter (probably hydrogen), or, chymically speaking, acquires such an attraction for oxygen, that it suddenly takes fire, and the body is reduced to a cinder.

It is supposed that this combustion originates in such persons spontaneously in some instances, and in others that a flame (as that of a candle) being brought into near contact with the body, is the immediate exciter of it. The persons in whom it has occurred have been chiefly women. In some cases the individuals have been found burning, “sometimes with an open flame flickering over the body, sometimes with a smothered heat or fire without any open flame whatsoever; whilst the application of water has occasionally seemed rather to quicken than impede the combustion.

“In no instance has the fire or flame hereby excited in the body been so powerful as essentially to injure the most combustible substances immediately adjoining it, as linen or woollen furniture.

“The event has usually taken place at night,

when the sufferer has been alone, and has commonly been discovered by the foetid penetrating scent of sooty films, which have spread to a considerable distance. The unhappy subject has in every instance been found dead, and more or less completely burnt up."

Relations of numerous cases of the above horrid termination of existence, will be found in the *Philosophical Transactions*, vols. 63 and 64; also in a variety of *Foreign Journals*, in Dr. Young's "*Medical Literature*," and in Dr. Mason Good's "*Study of Medicine*," from which the preceding extracts are quoted.

With respect to the structural changes which take place in so extensive a class of diseases as those that affect the Sanguineous System, they are so various that it would not at all suit the plan of this work to enter into any detail of them. I shall only observe, that they are almost universally the effect of the process of Inflammation.

OF DISEASED ACTIONS, CHIEFLY MANIFESTED IN THE
DIGESTIVE SYSTEM.

As Accelerated Actions of this system, I can only class the diseases called Bulimia and Pica, or Voracious Appetite and Dirt-Eating.

The first disease is supposed, in most cases, to arise from a diseased structure or position of the stomach, by which the food passes out of that organ very soon after having been received, in an imperfect or non-digested state. An instance is on record of a boy* of twelve years old, labouring under this disease, who in six days devoured upwards of three hundred and eighty-four pounds' weight of aliments.

Sometimes this disease is a sympathetic one, as in the case of that voracity which occurs during pregnancy. An instance is given of a lady who, under those circumstances, devoured one thousand four hundred herrings at a meal. †

* Vide Philosophical Transactions, vol. 43, page 366.

† Vide Talpius, vol. 2.

Any cause of irritation existing in the stomach will give rise to a craving, or false appetite:—thus, it arises frequently as a symptom of worms; but, in all such cases, the food is imperfectly digested, and the body suffers from the undue quantity of aliment received into it.

The voracious appetite that occurs after fevers and other diseases of an acute character, cannot be called a disease: it is an effort of nature to restore the body to its former strength. The stomach is enabled in those cases, by an unusual secretion of gastric juice, and by the accumulation of its nervous power, which previous abstinence has occasioned, to digest the quantity of food received.

As to Pica or Dirt-Eating, in which there is a desire to eat innutritious substances (as chalk, clay, metals, &c.), it occurs as a symptom of Chlorosis or Green Sickness, in which case, like the hunger of pregnancy, it arises from sympathy with irritation in the female Generative System; it also occurs in the Negroes of the West Indies as a symptom of the “*Maladie du Pays*,” or desire of returning to their native country. When this symptom occurs, the unhappy slave never

being gratified in his wish, the disease usually proves fatal.

The cure of those diseases will consist in removing the source of irritation in cases where it is possible to do so, and, afterwards, in strengthening the tone of the organ by tonic means.

As *Retarded* Actions of the Digestive System, we have Dyspepsia and Costiveness.

The former is, indeed, a most extensive subject. To give a general idea, however, of the usual causes of Indigestion, the observations made at the outset of this Treatise, when speaking of the process of Digestion, are to be recollected—viz. that the most perfect state of Nervous energy was required for the performance of this *stupendous* function, and that the sympathies of the digestive organs were so extensive, that whatever cause tended to diminish the general Nervous Power of the System would be a cause of Indigestion: also, that diseases of other organs, even of those remote from the stomach, and not connected immediately with the digestive function, would produce this disease. Thus, unnatural habits of life, as sitting up all night, and

remaining in bed during a great part of the day, sedentary occupations, mental anxiety, residence in tropical climates, profuse sensual indulgences, will all give rise to general nervous debility, and Indigestion as a consequence; and the latter will, in its turn, again act as a cause, giving rise to further nervous exhaustion, forming what the French writers call *un cercle vicieux*. It will also arise from sympathy with diseases of the liver, brain, intestines, &c.; and even with those of the genital organs, and of the large joints.

Where the disease arises as a consequence of general nervous debility, the cure will obviously consist in restoring the system to a firm and healthy state; but it is to be recollected that, whilst the digestive organs continue in a weak and irritable state, they must not be called on to exert their peculiar actions to a greater extent than is rendered necessary for the purposes of life, and that, by giving a larger quantity of food than can be digested by them in their impaired state, the greatest injury is inflicted on them, and the prospect of cure still further removed. In fact, the analogy holds good between the Stomach and all other injured and relaxed parts:

for example, when the leg or arm is sprained, its actions must be restrained until the cure is effected ; so should those of the Stomach in its diseased state. By this restraint *alone*, an accumulation of nervous power will take place in the organ.

But, it will be said, the Stomach is the only organ by which nourishment can properly be introduced into the system. True : but, if the food introduced into that organ be not digested properly, instead of being converted into nourishment, it becomes a source of irritation and injury. This principle is fully admitted and acted on in cases of *wounds* of the stomach : in those cases, nourishment is injected in a fluid form into the intestines by glysters, to avoid irritating the injured organs ; and, although I should not go so far as to wish to see my Dyspeptic Patients *dine à posteriori*, yet I should wish to see the *principle* kept in view in the treatment of the disease.

For a further consideration of this subject, I have again to refer to Mr. Johnson's valuable work on "Morbid Irritability of the Stomach and Bowels," a production calculated to do more service than all the publications on "Purgative Medicines," and "Constitutional Treatment of

Local Diseases," that Edinburgh or London Professors have ever written.

Costiveness is either a symptom of Dyspepsia (which we have already considered), or exists as a constitutional complaint in persons otherwise healthy.

A degree of habitual costiveness is natural to persons of robust fibre in a state of health; because, in such persons, absorption is carried on with vigour, and the fluid nutritious parts of the food speedily taken up, as well as the mucus poured out from the secreting surface of the intestines themselves. It is a remark of Dr. Heberden, in his "Medical Commentaries," "that a person with *slippery* bowels is never a strong one," that state depending on a debilitated one of both the Nervous and Vascular Systems, by which the secreting extremities of the latter too readily pour out their fluids, and the irritability consequent on the state of the former renders the peristaltic action (of the digestive intestinal organs) too easily excitable.

Children, from the greater irritability natural to the period of infancy, and from the laxity of

their Vascular System, are always prone to looseness of the bowels ; and old persons, from the contrary state in them, to costiveness.

Hippocrates remarks, in his " Aphorisms," " that those who have loose bowels in childhood become costive in age, and *vice versâ*." I am not aware on what physiological principle this can be explained, if true.

A sedentary life produces costiveness, on a principle that may be inferred from what we have already remarked in speaking of the effects of exercise on indigestion.

The structural changes found to exist in Dyspeptic persons are, I believe, scarcely perceivable after death in the digestive organs, where this state has existed as a primary disease. According to the view I have taken of the complaint, its source is to be sought for in the general Nervous System.

Schirrus of that part of the stomach called the " Pylorus," and ulceration consequent to it (of which such a memorable example was afforded in the late Emperor Napoleon), is supposed to have

Dyspepsia for its cause. The cause, however, of that complaint, no doubt, lies far deeper, it being, as I believe, a true internal *Cancer*, having its origin in the same constitutional causes as other varieties of that horrid complaint, occurring at the same period of life when Cancer of other parts of the body generally reveals itself (as of the Lip, the Testicle, the Breast in the female, &c).

The Pylorus is a part studded with glands, and it is the peculiarity of Cancer to make its attacks in glandular structures.

One consequence of indigestion is Hæmorrhoids, or Piles, which I have already noticed as a variety of *Varices*, in the last section. The costiveness occasionally attendant on the complaint, would of itself produce Piles, which have also as a cause the irritable state of the whole Digestive Tube, which the continuance of Dyspepsia never fails to produce, and which renders Diarrhœa, instead of Costiveness, a symptom of its advanced stages.

Broussais, the celebrated French author, maintains, that a state of Chronic Inflammation of the mucous surface of the intestines exists in such

cases, the evidences of which are to be found after death in the red and vascular state of that membrane. Opportunities are not often afforded of ascertaining this fact with certainty, but I have very strong reasons indeed for believing that a state analogous to the above does exist in some constitutions in which Dyspepsia had been produced by causes of direct Nervous Irritation and Debility.

One case of this kind, which had existed for several years, in which the patient was reduced extremely by Diarrhœa, and in which there was a constant feeling of heat and irritation in the Stomach and Bowels, was cured *almost immediately* by a violent commotion of the whole Digestive System, occasioned by plunging the body into a cold bath shortly after his return from the relaxing climate of the south of Europe. This crisis was attended with the discharge of great quantities of black, foetid, and clotted blood and mucus, by stools (which was supposed to have proceeded from the rupture of Internal Piles). The disease was absent until again unfortunately renewed by a fresh cause of Nervous Irritation (a Gonorrhœa) being applied; and it

was again in some degree removed by a discharge from the internal Hæmorrhoids occasioned by the artificial removal of some of them.

These facts would argue strongly in favour of an inflammatory state existing in some cases of Dyspepsia. Such a state as I have described, however, will, I believe, only be found where great Nervous Irritability of Constitution exists, in which cases, no doubt, the excitement is propagated eventually to the Vascular System.

In such cases the reduction of the Vascular Excitement of the Digestive Organs ought to precede our attempts to remove the disease by a regulated diet, &c. ; but, unfortunately, it is not always easy to accomplish this.

Broussais and others recommend the application of leeches and cupping-glasses to the surface of the Belly over the Stomach and Intestines. I do not believe that either method is likely to be of any service. When Hæmorrhoids exist, I would propose opening them, as the most likely means of making a direct impression on the Vascular System of the Digestive Organs.

The consideration of the Structural Changes found as a consequence of Diseases of the Digestive Organs, has led me to the above remarks; but, from the observation which I have made at the commencement of them, it may be inferred, that I do not suppose that the evidences of increased Vascularity would ordinarily be found to exist in Dyspeptic persons after death.

The disease above mentioned no doubt often does exist connected with Dyspepsia, in individuals of a very irritable habit, but in those cases I consider Dyspepsia only in the light of a symptom, although one that re-acts most grievously in exasperating the general Nervous Irritation.

OF DISEASED ACTION, CHIEFLY MANIFESTED IN THE
LYMPHATIC SYSTEM.

I have not classed any diseases under the head of Accelerated Actions of this system.

In proof that it is through this system that many of the causes of disease enter the frame, I need only instance the Morbid Poisons, as those of Syphilis, Hydrophobia, &c.

As Retarded Actions of the Lymphatic or Absorbent System, I shall class all the diseases called *Dropsies*, which originate either in a debility of the extreme vessels of this system, by which they are rendered incompetent to re-absorb the secretions which are poured out into the several cavities for the healthy action of those parts, or from some *tumours* which press on the main trunks of the Lymphatic System, and thus offer a mechanical resistance to the passage of their contents, by which also the extremities of the system become *ultimately* debilitated. Ascites, or Dropsy of the Belly, for instance, arises either as an effect of general debility, in

which the Absorbent Vessels participate, or from tumours of some of the large organs which are situated in the upper part of that cavity (as the liver, spleen, &c.), by which the current in the Lymphatic Trunks is impeded in its progress towards the heart.

The cure in the latter case depends upon that of the original disease: in the former, on re-establishing the strength of the system, which is also the indication of cure in dropsies of a more general description.

Unfortunately, this latter object cannot in general be accomplished; for, when dropsy occurs as a consequence of debility, it marks a nearly total decay of the whole powers of life, occasioned by previous severe disease, by the effects of intemperance, residence in unhealthy tropical climates, &c.; and this state is also often accompanied by *structural* disease.

Thus, Dropsy of the Chest, which occurs in old persons as a consequence of long-continued Asthma, has as much for its cause the changes of structure which the lungs have undergone, as debility from age and chronic disease.

There is one description of dropsy which occurs principally in children, viz. Hydrocephalus, or Dropsy of the Brain, which appears to be connected with inflammation as a cause. The wonderful power of mercury in arresting the progress of internal inflammation (which we have before alluded to), has often been strikingly exemplified in this complaint, and it has in many instances snatched the infant sufferers from the grave, after every other means had failed.

In dropsies of the *limbs*, a very striking illustration of the principles I have laid down as to the causes of those complaints in general, is afforded: a violent sprain or injury of the limb is frequently attended by a dropsical affection of the part, from its absorbent vessels having had their tone and action impaired and weakened by the injury:—as the strength of the limb is restored, the dropsy disappears.

The same affection takes place, also, in a limb, if continued pressure is applied on the great Lymphatic Trunks of the part, either by a tumour or a ligature. The dropsy which occurs in the legs of women in the advanced periods of pregnancy, is owing to the pressure which the womb

makes on the great absorbent trunks. Two means of evacuating the water which has accumulated in the great cavities have been generally resorted to: one, that of removing it by the operation of *tapping*; the other, that of exciting some other secretion (that from the bowels or of urine, for example), which, making a call on the system for a supply of fluid, causes the dropsical waters of the cavities to be absorbed.

The former means is sometimes rendered imperative by the painful sense of distension, in Dropsy of the Belly.

As to the latter, unless means are taken to remove the *cause* of dropsy, it is obvious that it would be unavailing to remove the water by internal remedies. These remedies have often only served to debilitate still further a worn-out system by their action; and, unless there should appear a prospect of removing the *source* of the complaint, an *honest* physician should abstain from them. Where such a prospect *does* exist, such remedies may be joined with advantage to the plan adopted for attaining it.

OF DISEASED ACTIONS, CHIEFLY MANIFESTED IN
THE SECRETING SYSTEM.

Many diseases might be classed under this head. I shall, however, only notice *two* as *Accelerated* and *two* as *Retarded* Actions of the Secreting System, which will serve to illustrate my views on this subject (for I am not writing a system of Medicine, but a review of its principles).

Those diseases are Diarrhœa Mucosa (Mucous Looseness), and Diabetes (or immoderate flow of urine), as *accelerated*, and Icterus Hepaticus (or Liver Jaundice), and Ischuria Renalis (or Kidney Strangury), as *retarded* ones.

Mucous Diarrhœa is a complaint in which, from exposure to cold and damp, which checks the perspiration on the skin, the exhalent system of vessels which open on the surface of the intestines, pours out more than its usual quantity of fluids, (from the sympathy which exists between those two structures); this excites the peristaltic motion of the Bowels, by which the disease is produced.

Persons of a delicate and irritable constitution are of course more subject to this complaint than others. In the robust, the same causes would only produce an unusual discharge of urine by the kidneys, for a natural and direct sympathy exists between the skin and those organs, so that the kidneys constantly perform the office of the skin when any obstruction exists to the function of that organ.

The occurrence of Diarrhœa always marks an irritable state of the Bowels, when produced by other causes than the direct *stimulus* of purgative medicine. When the disease has been of frequent occurrence, it often becomes a constitutional malady, and in such cases, no doubt, the whole exhalent system of vessels in the bowels becomes relaxed and enlarged in their diameters, and the nerves of those organs much more irritable.

I have had experience that medicine has but little effect in such a state; neither has diet much. In speaking of Varices, or Varicose Veins, under the head of diseases of the Sanguineous System, I have noticed one remedy which I have found successful in cases of Chronic Diarrhœa, viz. that of supporting the lower intestines by a bandage

applied in such a manner that the principal pressure shall be over the left and lower extremity of the intestine called the Colon, which is that part principally interested in this disease, and where a sense of weight and debility is generally felt in those constitutional forms of the complaint. By this means the vessels of the large intestines are supported in their actions, and soon acquire strength and firmness sufficient to restrain their inordinate ones.

Diabetes is that disease in which an inordinate quantity of urine is daily discharged having the taste of sugar, with which vegetable substance it is in fact loaded, instead of with the *animal* matters usually found in it. Twenty-nine ounces of sugar have been separated from the urine discharged by a patient with this complaint in the course of twenty-four hours, being an ounce to each pint of urine.

The constitution suffers extremely under this complaint, which has usually proved fatal. It is one which occurs principally in persons who have led a life of intemperance, and its causes are involved in some obscurity. Its immediate cause, however, is an increased action of the kidneys,

(the organs which separate urine from the blood), and it is therefore placed in this division of the subject.

By *Ischuria Renalis*, or *Kidney Strangury*, is meant that disease in which no urine is separated from the blood by the kidneys. This complaint occurs as a symptom of other diseases, as *Inflammation of the Kidney* and *Stone in the Kidney*, with which I have nothing to do, as I am here speaking of cases in which the non-secretion of urine is itself the Disease.

This complaint seems in many instances to be caused by a palsy of the kidneys themselves. It has sometimes existed for a considerable period without proving fatal, in which case the urine has been carried off by some other channel, as by the bowels or skin; but, when Nature has not been able to effect her object in this way, the patients have always died in a state of stupor.

The most extraordinary species of this affection, however, is that in which no urine is ever formed by the kidneys, from the time of birth, and yet in which the individual has continued in

good health. (Vide Philosophical Transactions, anno 1783, vol. 28th.)

The cure in cases of Kidney Strangury would consist, of course, in attempts to overcome the paralysis of the kidney by stimulant means applied to them, and to prevent a recurrence of disease, by tonics. In the symptomatic form of the disease, the mode of cure would be very different: it would therefore be essential to discriminate them. In the power of forming such distinctions is felt, as we have before observed, the skill of the scientific physician, and the danger of the gross and ignorant pretender. In the present case, for example, were the symptomatic strangury treated by the measures we have recommended for the idiopathic form of the disease, the destruction of the patient would in all probability be the result.

Liver Jaundice is that disease in which the liver does not perform its office of separating bile from the blood in its usual quantity, that which is separated being chiefly conveyed into the blood, instead of passing into the intestines by its proper channel. This is, however, only a symptomatic

complaint, in most instances, and to be treated as such. The cure of the forms which are idiopathic, is to be effected by medicines and other means calculated to excite the liver to the performance of its functions. Amongst the former, calomel, and the latter, exercise and the enlivening passions, are the most powerful.

Diseased Actions of the MUSCULAR SYSTEM, whether Accelerated or Retarded ones, are all symptoms of disease of other systems, and therefore need not be noticed here.

OF DISEASED ACTIONS, CHIEFLY MANIFESTED IN THE OSSEOUS SYSTEM.

This system frequently takes on Accelerated Actions, the source of which we cannot define. The effects are bony growths, either sprouting from the individual bones themselves, or growing in textures where bones are not naturally found. Some curious instances of both species are on record: there is an example, I think, of the former, in the Anatomical Museum at Trinity

College, Dublin. In that case the bony growth went on until the chest became almost one solid plate of bone, and *exostoses* sprouted out from every bone of the body, impeding, and finally arresting, the motion of the muscles, until at length the vital organs themselves could no longer perform their functions, from the rigidity of parts produced by the morbid osseous structure, and death ensued. The latter form of the disease chiefly takes place in old age, from the increase of the earthy particles in the system. In those cases the large vessels of the heart frequently become ossified. Such a state, however, is not necessarily fatal to life, many subjects of it having died of old age after the disease (to judge from its extent) had existed for years.

In many cases, bony growths take place in the substance of the vital organs, the Brain, the Heart, &c. An instance is on record in which the entire penis became ossified. Chymical remedies containing the mineral acids have been recommended in such cases, and, when it has occurred in young subjects, venesection and other depleting measures have been pursued, but I believe medicine not likely to be of much use in such instances.

Bony growths are sometimes the consequence of other diseases, as the Venereal Disease, &c. Blows; in those disposed to the complaint, are often the exciting cause of it. Horses seem to be much disposed to this complaint, which the farriers call Bone Spavin.

The *Retarded* Actions of the Osseous System are manifested in two diseases, Fragilitas and Molities Osseum—or morbid brittleness and morbid flexibility of bones. The former is generally a disease of old age, and depends on this, that the animal part of the bone, or the oily and gelatinous parts, are not supplied in a due proportion to the earthy parts; it sometimes, however, occurs in young people, as a result of a peculiar constitutional disposition. An instance is on record of an old lady who broke both her thigh-bones in church from the mere act of kneeling down, and, when they raised her up for the purpose of carrying her out, her arm was broken by the act of raising it up from the body. Cordials and the mineral acids have been recommended in those cases.

The morbid flexibility of bones chiefly occurs in young persons; it is usually the concomitant of

ill health, and it occurs to a certain degree as a symptom of the disease called *Rickets*. The cure consists of perfect rest in a horizontal posture, and the use of tonic remedies and of every other applicable means to bring the system back to a state of health.

In cases of this kind, the bones have been found capable of being cut through with a knife after death.

With respect to diseases of the **LIGAMENTARY PARTS**, they are referable to those of the Sanguineous and Secreting Systems generally. One disease, dropsy of the joints, will come under that of the Lymphatic or Absorbent System.

The diseases of the **SENSES** are entirely referable to those of the other systems: for example, morbid acuteness of hearing, and morbid dulness of both sight and hearing, to the Nervous System; a numerous class of diseases of the organs of sense, connected with inflammation as a cause, to the Sanguineous System; Dropsy of the Eye to the Lymphatic System, &c.

OF DISEASED ACTIONS, CHIEFLY MANIFESTED IN THE
GENERATIVE SYSTEM.

It now only remains to take a view of the nature of the diseases of the above system. Strictly speaking, they ought all to be classed under the head of the systems we have considered, for, as we have already observed, their functions all depend upon modifications of those systems: as, the extreme and peculiar irritability of the organs, to the Nervous System; the mechanical changes which fit them to the performance of their functions, to the Vascular and Muscular Systems; the generative fluids, to the Secreting System (and, as some have supposed, very immediately to the Digestive System, which, it has been asserted, supplied the male organs with pure chyle through the lacteal vessels, without the medium of the sanguineous circulation). The Osseous and Ligamentary Systems are intimately connected with the œconomy of the female generative organs, which again are connected with that of the Senses by the sense

of touch, the peculiar modification of which is so strongly marked in this system.*

Notwithstanding this, however, the generative organs exhibit some peculiarities, both in their healthy and morbid states, of a character sufficiently independent to afford room for our considering their diseases apart: for instance, the extraordinary effect that irritation in those organs produces in the whole animal œconomy at the period of puberty (a satisfactory explanation of which has never been given), producing, in the male, the sprouting of the beard, the peculiar and sudden change of voice, &c., in the female, the development of the breast, &c., and in after-life affording a susceptibility to a disease (the Gout), which has never been known to attack persons castrated in infancy.

Following our plan of considering all diseases as either Accelerated or Retarded Actions of the

* The peculiar office performed by the placenta in the female, by which the blood of the fœtus or embryo is endowed with the oxygenous principle necessary to life, constitutes a function which, although connected with the Generative System, is one sufficiently distinct from that, or any of the foregoing systems, to be considered almost as a separate one.

systems they exist in, we shall first look at the Accelerated Actions of this system, and they may be considered as accelerated either as to *period* or to *energy of action*.

It is well known that some persons, both male and female, arrive at the period of puberty earlier than others. Climate has a most remarkable influence in this respect, and persons who are possessed of any general information are aware of its effects, as manifested in Egypt, Syria, Spain, and other southern countries, where it appears that girls are frequently married at the age of nine. Whilst speaking of this fact, let me notice one, which, in the opinion of those who argue for the Phœnician origin of the southern natives of this country (Ireland), gives a confirmation to their hypothesis, viz. the early puberty and marriages of the female peasants of some parts of Munster. I have myself seen, in the County Kerry, a girl of twelve years of age, who had been married for some months, and I have been assured that such early marriages were extremely common there. It would appear that our moist and cool climate had not succeeded in quenching the Syrian fires in the bosoms of those descendants of the early Tyrian emigrants ;

and, if our fair ones of a higher sphere do not contract such early marriages, some *mauvais plaisans* have been found to assert that it is not from want of disposition ; for, according to them, there exists in the air of our country a constitutional peculiarity favourable to the development of the female amatory powers, of which strangers coming to our shores receive frequently a proof, in carrying away a wife with them. Those slanderers, however, have not scrupled even to assert, that our fair ones were inclined to join an adoration of Bacchus to that of Venus, and they would probably even push their malevolence so far as to derive their assumed predilection for the latter to the practice of the former worship :—

“ Sine Baccho, friget Venus.”

But, to return to our subject:—Besides climate, other causes will contribute to the advancement of puberty : a nutritive diet, stimulant regimen, and external warmth, have this effect ; so that, generally speaking, this period arrives sooner in the rich than in the poor of each sex. Nothing, however, has a more marked, and frequently deplorable, effect in this way, than moral causes, or those acting through the imagination. Hence,

therefore, the extreme danger of suffering young persons to associate with those likely to use language and actions tending to inflame the passions, or to read books having the same tendency.

Hitherto, we have not considered the actions of the Genital System as constituting disease. There are instances on record, however, in which they can only be considered in that light: first, those extraordinary ones in which puberty, with all its distinctive marks and actions, takes place in infancy. Such is the case related in the *Philosophical Transactions* for 1745, in which the disease (for so it must be termed) took place in a boy of three years old. Cases of the same kind are cited in the *Foreign Scientific and Medical Journals*. (Vide *Journal des Sçavans* for 1688.) A child also was some time back exhibited in London, with all the marks of puberty at the age of three or four years.

This disease is recommended to be treated by local blood-letting, cold applications, moderate low diet, and other remedies of that nature.

As Accelerated Actions occurring at a natural period of life, we have Priapism in the male, and

Nymphomania in the female. These appear to be diseases of debility, and consequent irritability of the Nervous System generally, or of that of the genital organs in particular. They sometimes occur in consequence of genital irritation from mechanical causes, as a stone in the bladder, or a tumour in the other neighbouring parts. A case of this kind is given in the "Transactions of the London Medical Society," vol. 1. It was caused by a swelling of the prostate gland, from an injury. The patient was a married man, upwards of sixty years of age. The irritation of the genital organs in his case produced such a state of Priapism, that he was in the habit of copulating with his wife twenty times nightly during two months, and was, in consequence of this, and the irritation of the complaint, reduced to a state of dangerous debility and emaciation. His wife, also, was rendered extremely ill from local inflammation produced by his proceedings. The tumour at length suppurated, and the man recovered.

That which has been called the salacity of old age is generally (when not originating in such a cause as we have just spoken of) the result of a previously debauched life, and the

instances of it certainly present the most despicable and disgusting specimens of human weakness and vice. It is this cause that gives rise to the monstrous unions we daily see take place between the rich old dotard and his poor blooming female victim, whom her unnatural friends doom to the most horrid and loathsome of all sacrifices, for their own selfish ends ; for the advantage of the wretched being they thus immolate, morally as well as physically, although often put forward as the motive, is the least thought of.

Is it to be wondered at that an abandonment of all moral feeling should be the consequence to the female thus compelled to violate the laws of Nature? or is the wretch to be pitied whose vile disease but serves to render him the involuntary pander to his wife's future debaucheries, when he pays, in the scorn and ridicule of all mankind, the price of his sordid and selfish villany, and at length finds himself on a death-bed, and left to the venal cares of the mercenary crew attracted round him, like vultures, to prey on his remains (his wealth), which he usually ends by willing from his candid and manly friends to the syco-

phants that have made a trade of pouring their honied flattery into his weak and doating brain?

As *Retarded* Actions of the Genital System we have a long train of complaints under the head of Impotency and Barrenness, connected with Structural, Nervous, and Mental causes. These are the diseases that have afforded such an ample field to the swindling empiric and unprincipled charlatan, in conjunction with the maladies more peculiarly called Venereal ones, in his designs on the purses of his victims. The credulity of mankind—the pride of our nature, which teaches us to brave death itself rather than risk the scorn of mankind—and, above all, the ignorance of the Principles of Life and of the Science of Medicine, which I have dwelt upon in the Introduction to this Treatise,—have all aided those adventurers in their projects, and have enabled them to possess palaces, bought and constructed with the treasures and blood of their victims. Witness the enormous fortunes of the S——s, the L——s, &c., of to-day, and of all the secret doctors of days gone by, by whose means the blood of so many families has been tainted in its source. Look at G—— House, that structure raised

from the balsam so appropriately called *golden* ! It would be useless to dwell on the danger and misery resulting from putting one's health into the hands of men whose histories would in every case amply reveal their ignorance, for credulity would still attract victims to such men. To strike at the root of the evil, that knowledge of the Principles of Medicine as a science, which it has been my object to induce the acquirement of, would be the most effectual means, as it would impress one truth on the world: viz. *that there are no specific remedies in Nature*, and that the man best calculated to relieve suffering humanity under the influence of disease, is he to whom science and long observation, united with natural talent, have given the power of forming an accurate judgment of the Origin, Symptoms, and Distinction of Morbid Actions. Such a man, overlooking the artificial definitions of schools, unshackled by systems, unbiassed by theories, unseduced by mercenary feelings, exhibits an acquaintance with disease, which, to those ignorant of its sources, and who see it manifested in its effects only, appears an instinctive and almost miraculous one. To such a man, the representations of his patients and his friends, whether made to him for the purposes of deception (which

often occurs), or from really mistaken views of the subject, are as the "idle air." He will often astonish them by pointing out the facts connected with the *real* origin of the malady, or convince them, by a few simple words, of the mistaken notion they had taken of the subject; nor will he increase the terrors of the hour of anguish by mysterious phrases and gestures. It is, however, a lamentable fact, that such a man is, in nineteen cases out of twenty (and this is, perhaps, the proportion that ignorance bears to knowledge), less prized, and less sought after, than the mysterious charlatan; so much of the leaven of the old idea of the connexion between Physic and Occult and Mysterious Sciences still subsists, —of those days when Physicians pretended to judge of their patients' diseases by seeing their urine; when the stars were consulted before a dose of physic was taken; when the King's Evil was supposed to be cured by the Royal touch; when women flocked to surround the body of the executed criminal, and rubbed his hand to their breasts as a cure for Cancer or Epilepsy, &c.

At the moment I write this, two charlatans have arrived here from England, on a professional

tour: one, whose domain is the class of diseases belonging to the system I am now considering; the other, who has chosen for his field of practice half a dozen complaints of the Nervous Class, over the symptoms of which the imagination exercises, of course, a strong power. These men will no doubt reap and carry off a golden harvest, even from those whose education should have taught them to form rational views of their pretensions.

I shall not enter more into detail respecting the diseases of Retarded Action of the Genital System, as such a detail would be productive of more injury than benefit to mankind. From the extraordinary sympathy which those organs exert through the Nervous System with every part of the body, and from that which the mind so strongly manifests over that system, such details are calculated to exasperate the symptoms of the maladies we allude to; and it has thence been a never-failing means with the charlatans of drawing their victims to them, to publish works dwelling on those subjects in language calculated to awaken terror and apprehension. Let those who either really or in imagination labour under any complaints of this nature, fly such harpies as they

would death itself. Their productions are nauseous, ridiculous, and false; their nostrums either injurious, or at best useless; and the only excuse for those that seek them is in the imbecility of mind that forms often a feature in their complaints.

I have already spoken of the Venereal Disease under another division of the subject. I shall only here observe, in corroboration of a remark which I have made a few pages back, that mercury, although I have asserted it to be the only known remedy, is not a *specific* one; on the contrary, unless used under circumstances fitted for its employment, and with precautionary measures, it will act as a poison, and still further exasperate all the symptoms of this miserable malady; and that, of all the preparations of it, that called the *Muriate of Mercury* is the most dangerous and unmanageable. This is the preparation which enters into the composition of almost all the quack syrups, pills, drops, &c. which form the panacea of the most celebrated Venereal Charlatans, which they advertise as requiring neither confinement, regulation of diet, nor restraint! With this information on the subject, let the misguided youth seek his Quack and his Nostrum: if he es-

cape with life, he will at least gain a lesson of experience.

I shall observe, for the comfort of those who do not choose to run those risks, that I feel authorized, from a long experience in the army and elsewhere, in asserting that, under a judicious and rational mode of treatment, no disease is capable of a more perfect, safe, and radical cure, than this ; and that such a mode of treatment, instead of requiring a long period, removes the disease in at least one-half of the time consumed by the advocates for the specific powers of the remedy, in their mode of practice, or by the charlatan, in his fruitless and desperate measures.

THE END.

ERRATA.

- Page 16, line 17, for "a too scanty supply, or innutricious food," read, "a too scanty supply of innutricious food."
- 33, — 24, for "toe," read "toes."
- 43, — 23, for "external," read "internal."
- 52, — 18, for "in Lough Derg," read "on."
- 58, — 5, for "symptoms," read "systems."
- 58, — 18, for "philosophical," read "physiological."
- 60, — 24, for "John Browne," read "Doctor John Browne."
- 78, — 24, for "Johnstone," read "Johnson"
- 79, — 4, for "any," read "my."
- 118, — 6, for "sarsaparella," read "sarsaparilla."
- 126, — 18, for "the" read "this."







